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GEOGRAPHY LEADER'S III

# OUR AMERICAN NEIGHBORS

I·O·WINSLOW

D·C·HEATH  
& COMPANY  
BOSTON



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**GEOGRAPHY READERS—III**

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**OUR AMERICAN NEIGHBORS**

**BY**

**I. O. WINSLOW**



**BOSTON, U.S.A.**

**D. C. HEATH & CO., PUBLISHERS**

**1910**

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## PREFACE

THE purpose of this series is to occupy middle ground between the customary text-books and geographical readers, and to combine the essential advantages of both.

The two extremes, whether employed separately or together, fail to meet the practical needs of the average school-room. The text-books adhere to the scientific method, at a sacrifice of the practical or pedagogical method. The teacher finds it difficult either to assign a definite lesson for study from the books or to use them for class exercises in reading and discussion. In their completeness the text-books contain so much that selection is difficult, and the attempt to teach the whole is disastrous.

Geographical readers, in the form of stories of travel, go so far to the other extreme that they also fall outside of the daily task of the geography teacher. Courses of study very properly call for definite concepts and facts. After serious attention has been given to these, there is but little time to spare in the regular curriculum for lighter reading.

There is need of books that shall select the essentials and set them forth in such an explicit and straightforward manner that they may be easily used, both for preparatory reading and for study and recitation. It is the design of these books to supply that want. Since they occupy a unique position, they should not be judged according to existing standards, but according to practical needs.

It is the purpose of this second book and the remaining books of the series to build upon the foundation laid in

Book One, and to complete a treatment of the essentials of an elementary course in geography. Such topics as have been given with full details in the primary book are omitted, or briefly mentioned, or treated from a more mature standpoint, in the later books.

Unusual attention has been given to the industrial and commercial aspects of the subject, in the belief that these are of fundamental importance and of natural interest to children. The fact that political geography, or the geography of locations, is wrought out in close connection with such industrial and commercial development renders it more significant and more easily remembered.

Topics of fundamental importance are fully explained in the text, but many minor points, which may be easily ascertained or inferred by pupils, are reserved and given at the end of each chapter, either in the form of questions or brief statements accompanied by questions. These exercises, supplemented by map sketching and other work that is here and there suggested, will provide definite lessons for the study period, which many teachers find it difficult to arrange.

The review questions relate to principal points explained in the text, and may be employed either for the daily assignment of lessons or for occasional review. It is believed that these questions, together with the exercises given in connection with each chapter, include as much as pupils of elementary grades should be expected to learn.

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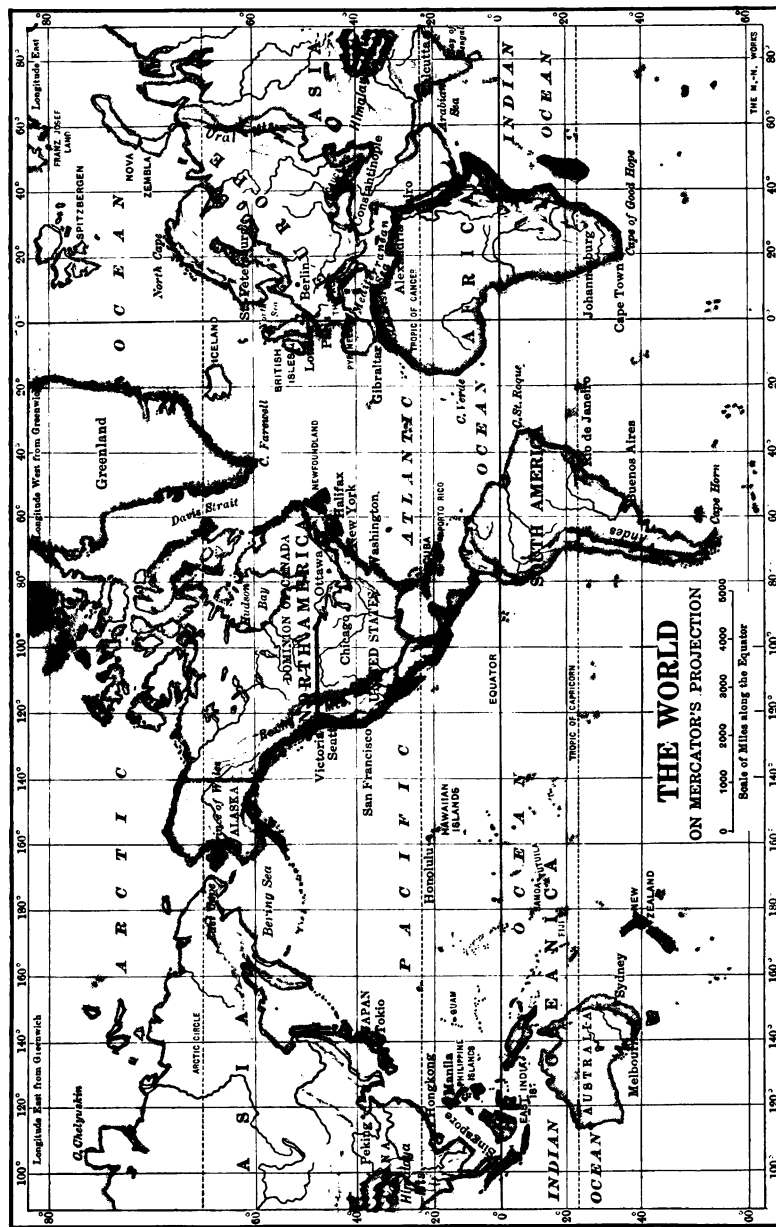
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### **III**

## **OUR AMERICAN NEIGHBORS**



# OUR AMERICAN NEIGHBORS

## I. Canada

IN this book we are to pass beyond the borders of our home country to the other countries and islands of the Western Hemisphere and to our foreign possessions. Although we strive to be friendly with all foreign nations, we naturally have a special interest in the countries and peoples of our own hemisphere. We are learning more and more to think of these countries as our neighbors.

The great country of Canada is our nearest neighbor. It borders the United States on the north for many hundreds of miles from the Atlantic Ocean to the Pacific. In climate and general appearance the southern part of Canada and the northern part of the United States are so much alike that it is difficult to determine where one country leaves off and the other begins. A majority of the Canadian people speak the English language and have customs similar to our own.

Canada is a very large country. It is larger than the United States, and nearly as large as all the countries



Coat of Arms of Canada

of Europe combined. It is about forty times the size of its mother country, Great Britain.

The general physical features of Canada, that is, its mountain systems, valleys, and great plains, will not require special study, because they are so much like those of the United States. The great mountain systems and plains of North America extend across the United States and Canada alike. The eastern part of Canada is hilly, like New England, and among the hills are



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**In the Canadian Rocky Mountains**

numerous lakes produced by the Ice Sheet. Extensive plains occupy the central part. In the west are lofty mountain ranges.

In the climate of southern Canada there is the same variation as in the climate of the northern part of the United States. In the interior the summers are warm and the winters very cold. In the east, the extremes of heat and cold are somewhat modified by the ocean and by other bodies of water. In the west, winds from the

Pacific produce the same effect upon the climate even to a greater degree. Toward the north the climate becomes colder, and in the far north the country extends into the Arctic regions.

There is an abundance of rain and snow in the east and in the mountainous regions of the west. A section east of the Rocky Mountains, corresponding to the Great Plains of the United States, is not well supplied with moisture, although Canada has no barren desert like the great desert region of the United States.



Quebec and the St. Lawrence

Before Europeans settled in the country it was inhabited by a comparatively small number of Indians. There were also a few Eskimos in the far north. There are still more than one hundred thousand Indians scattered about in various parts of Canada. Those in the southern part have generally adopted the customs of the white settlers, but those farther north lead a roaming life and live mostly by hunting and fishing.

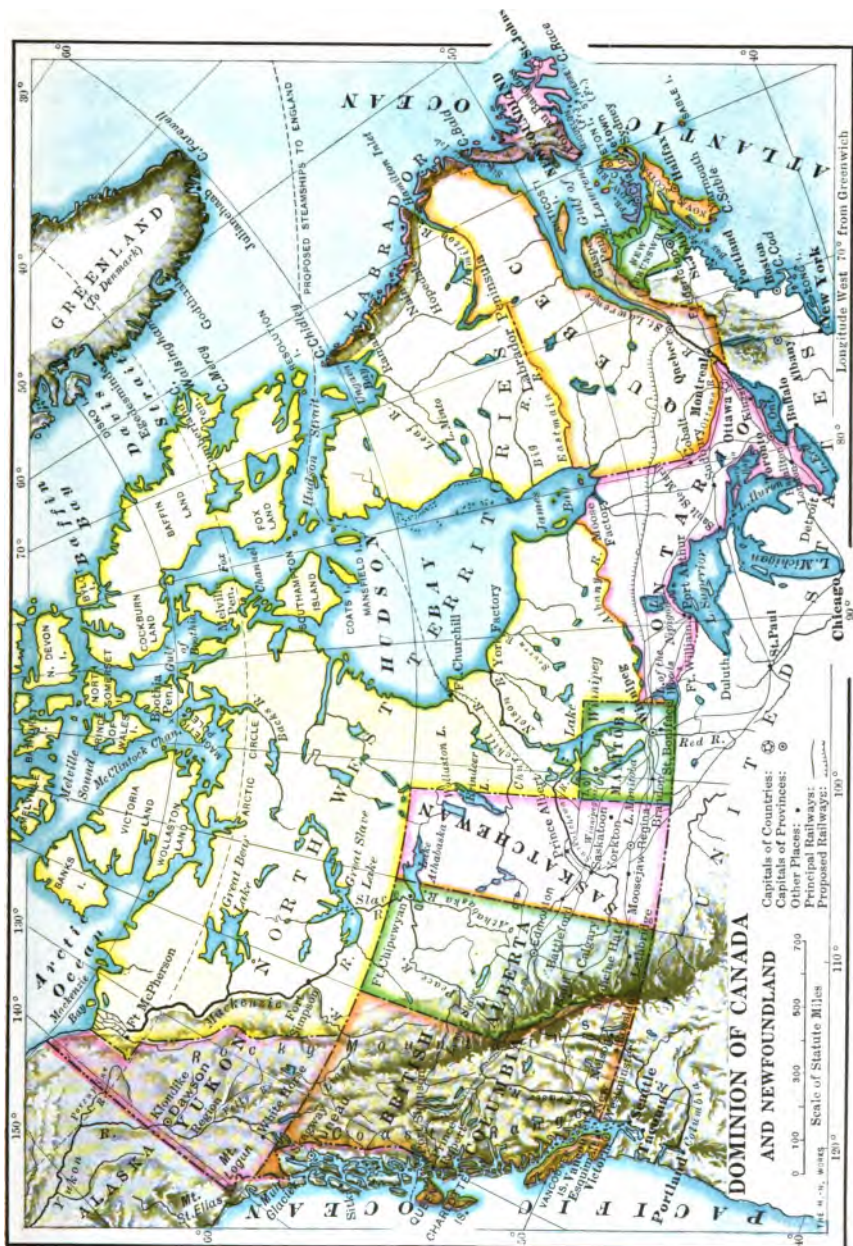
While the English were settling the eastern coast of

North America farther south, the French were exploring the eastern coast of Canada and the St. Lawrence Valley, making settlements at Quebec, Montreal, and other points. When the British overcame the French and gained control of the northern portion of the continent, most of these French settlers remained. Their descendants still live in the province of Quebec, and a great majority of the people of that province speak the French language.

English people and other immigrants have settled farther and farther to the west, but it is still a very new country. Although Canada is larger than the United States, it has not so many inhabitants as our single state of New York.

Like the early colonies of this country, there were at first in Canada separate colonies, each having its own government, although they were all under the general control of Great Britain. The provinces of Nova Scotia, New Brunswick, Prince Edward Island, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, and British Columbia are now united and form the Dominion of Canada. Each province has a government of its own, as each of our states has, but the Dominion has a central government with Ottawa as its capital. Instead of a president, the Dominion of Canada has a Governor-general appointed by the British Government. Each province has a Lieutenant-governor appointed by the Governor-general.

North of the provinces that comprise the Dominion of Canada there are several sparsely peopled territories of vast extent, some of which are organized and some unorganized.



1. Name two mountain ranges in the western part of Canada.
2. Mt. Logan is the highest mountain peak in Canada. Locate it.
3. Which of the Great Lakes lie between Canada and the United States?
4. Name several large lakes in Canada besides the Great Lakes.
5. Name three large lakes in the basin of the Mackenzie River.
6. The Mackenzie River is about two thousand miles long. Why is it of little value for navigation?
7. Why are the most thickly settled portions of Canada next to the United States?



**Plowing in Western Canada**

8. Prince Edward Island has more inhabitants for its size than any other province of Canada. In what direction is it from Nova Scotia?
9. The Islands of Miquelon and St. Pierre belong to France. Where are they situated?
10. Sketch a map of Canada, showing the boundaries of the provinces.

## **2. Agricultural Lands**

Immigrants are attracted to Canada by the great tracts of rich land that may be purchased at a low price or obtained without much cost from the government.

In the southeastern provinces the land is generally fertile, and where forests have been cleared away, agriculture flourishes. On the peninsula that extends

farthest south among the Great Lakes the climate is mild enough for such crops as corn, tobacco, peaches, and grapes. Farther north the summers are too short for many of the crops that are raised in the United States, but oats, wheat, barley, flax, hay, and potatoes are grown in great abundance.



**Harvesting Wheat in Manitoba**

The richest and most extensive agricultural land of Canada is farther west in the provinces of Manitoba, Saskatchewan, and Alberta. For many years a large amount of wheat has been raised on the Red River Plains in Manitoba, but until very recently it was supposed that only a narrow strip of the southern part of western Canada had a climate mild enough for successful agriculture. The western part of the country was regarded as a bitterly cold region of no practical value except for hunting. As the more southern plains and prairies of the United States became fully occupied,

however, settlers gradually moved north, and it was discovered that wheat and other grains would thrive equally well in these northern regions. Successful crops of wheat have been produced as far north as the vicinity of Great Slave Lake, beyond the sixtieth parallel of latitude.

This surprising fact is rendered possible by the great length of midsummer days in such northern regions. Because of the general idea that northern countries have an extreme climate, we are liable to forget that although winters in the north are dark and cold, in summer there is a greater amount of sunlight than in the United States. At the equator the days and nights are of equal length. At the North Pole in midsummer the sun does not set at all. As we go from the equator toward the North in summer the days become longer.

The growth of wheat and other crops requires much sunlight. Where the sun shines from three o'clock in the morning until nine o'clock at night wheat plants will spring up and ripen rapidly for the harvest in the short northern summer. It has been found, also, that wheat grown quickly in such long summer days produces the finest flour.

The discovery that the lands of western Canada are adapted to the growth of wheat has given the world a new idea of the natural wealth of that country. The Canadian wheat region is as large as the great prairie region of our Central West, or one third as large as the whole of the United States. The prospect of an abundant supply of Canadian wheat is very welcome to the people of Great Britain, who depend largely upon foreign

countries for their supply of food. At present a large amount of wheat is sent to Europe from the United States, but as our population increases the time may come when we can spare no more, and the great shipment of wheat will then be made from the more northern country. It is prophesied that Canada will become the "bread-basket" of Great Britain, and perhaps of the whole British Empire. Besides grain, much live stock is raised on the farms and ranches of Canada.



Threshing Wheat

The winter climate in the farming region of western Canada is not so disagreeable as many have supposed it to be. It is true that the winter nights are long and the temperature is often low, but the dryness of the air renders the cold less disagreeable. Moist air conducts heat away from one's body faster than dry air and hence seems colder than dry air at the same temperature.

Only a small part of the western farming land has been thus far occupied and cultivated, but recently many thousands of immigrants have settled there every year. Some of these people come from the countries of Europe.

Many also are from the United States, having been attracted by the opportunity to purchase land at smaller cost than in this country. It has been estimated that the great agricultural territory of western Canada, which was once regarded as nearly worthless, will yield enough food when fully developed to support a population as large as the present population of the United States.



The Wharves at Montreal

In the settlement and development of western Canada railroads have an important place, as they have had in the settlement of the United States. It is useless to raise wheat unless the crop can be sent to market.

When a railroad crosses a new sec-

tion of the prairie, the cabins of settlers spring up along the way, and when the crops are harvested, long trains of freight cars are filled and started toward the east.

Several new railroad lines are being built across western Canada. One of these extends from the Pacific coast to Hudson Bay. In the summer months the ocean vessels of the future will find a harbor in Hudson Bay, where they will load with wheat and live stock for Europe. This will be the shortest and cheapest route from western Canada to European markets. The dis-

tance by railroad is much less than it would be to Montreal or other eastern ports, and the voyage to Europe is fifteen hundred miles shorter from the western shore of Hudson Bay than from New York City. Since Hudson Bay is so much farther west than New York this fact seems surprising, but we can understand it by noticing that the meridians of longitude draw nearer together as they extend farther north so that the distance across the same number of meridians at Hudson Bay is much less than at the latitude of New York.



In the Province of Quebec

1. Name a city of New England situated about as far north as the extreme southern point of Canada.

2. Why are the summers warm in Manitoba, although the winters are cold?

3. About how far north of the sixtieth parallel of latitude is Great Slave Lake?

4. It was once supposed that the part of North America north of the fiftieth parallel of latitude was too cold to be inhabited by white people. Across what part of Canada does the fiftieth parallel extend?

5. Find about how many states of the size of Dakota it would take to be equal in area to Alberta or Saskatchewan.

6. Regina is a center for the shipment of grain. In what province is it?

7. Calgary is the center for the live stock industry of western Canada. Where is it situated?

8. The terminus of the railroad to Hudson Bay is Churchill. Locate that town.

9. What is meant by the statement, "The twentieth century belongs to Canada"?

### 3. Forests

The forests of Canada are among the most extensive in the world. We boast of our own great timber regions, but the timber area of Canada is four times as great as that of the United States. There are small forests of



**In a Canadian Forest**

considerable value in the eastern provinces, but farther west there are vast territories of continuous forest land.

The Canadian forest regions consist of three great belts: the northern belt, sometimes called the spruce belt, the southern belt, and the British Columbia belt lying west of the Rocky Mountains.

The northern belt extends from the coast of Labrador to Alaska, a distance of about three thousand miles. Its average width is about five hundred miles. This is the great spruce forest of Canada. The spruce tree will grow farther north than most other varieties. It is said to extend over more degrees of latitude than any other native tree. In the climate of the far north spruce trees do not generally become large enough to be very desirable for timber, but they are the most desirable of all trees for making the pulp from which paper is made.

The supply of wood suitable for pulp is being rapidly exhausted in the United States, and we are becoming dependent upon the spruce wood or pulp that is imported into the United States from the Canadian forests. After spruce trees have been cut, it takes about twenty years for new ones to grow large enough for manufacturing pulp. With such a vast territory available, it would seem impossible to exhaust the supply, but the number of newspapers, magazines, and books, that are printed to supply the demands of the people, is rapidly increasing. It must be remembered, too, that it



**A Wood Pulp Mill**

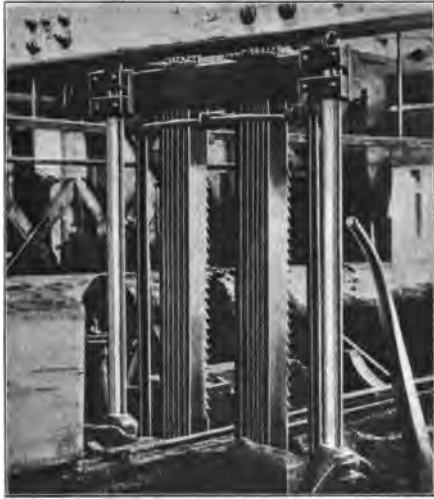
is not merely a question of supplying the people of Canada and the United States. Much Canadian pulp is sent also to the densely populated countries of Europe. Unless paper should be largely manufactured in future from other substances, such as the stalks of corn and cotton, even the vast forests of Canada will not be sufficient to supply the want.

South of the spruce region is a belt of larger timber, extending from the eastern part of the country as far as Manitoba. The forests of this belt consist of pine, hemlock, and various other trees such as are common in the northern and eastern forests of the United States.

The spruce belt and the southern belt of larger timber form an almost continuous forest which is about forty times as large as the whole of New England.

The British Columbia forest belt is from seven hundred to eight hundred miles long, from north to south,

and from two hundred to three hundred miles wide. It contains many large trees of the varieties that are found in the states of Oregon and Washington.



A Gang Saw Mill

The sale of lumber and pulp from these forests is a valuable source of wealth to the Canadian people. The great number of rivers aid in transporting logs and lum-

ber, and furnish water power for manufacturing. In winter, while the waters are frozen over and the ground is covered deeply with snow, trees are cut and logs easily drawn to the streams. When the snow melts, the logs are floated for hundreds of miles to mills where there is water power along the rivers.

Much of the lumber of eastern Canada is moved east to the Atlantic by way of the Great Lakes and the St. Lawrence River. From the Pacific coast lumber is shipped on vessels to foreign countries.

The fur of wild animals is another source of income from the forest regions of Canada. For more than two centuries an English company, called the Hudson Bay Company, has done a very large business in collecting Canadian furs. Trading posts of the company are located here and there, long distances apart, over the wild and lonely region. An agent at each of these posts keeps a store of supplies to be given to hunters in exchange for furs that are brought in. The hunting is done chiefly by Indians, many of whom spend nearly all their time in the northern woods. Traveling agents, usually Indians or half breeds, are sent out from the trading posts to collect furs from the hunters. The white agents in charge of the trading posts sometimes spend an entire year without seeing other white men.

Among the wild animals found in the Canadian woods and in the lakes and rivers are the bear, moose, caribou, deer, wolf, fox, mink, otter, beaver, and muskrat. In British Columbia there are the grizzly bear and the panther.

In summer ships of the Hudson Bay Company bring supplies for the trading posts and return to London with furs. From other sections the fur is taken to certain centers and then sent to Quebec and Montreal in the east, and to Edmonton in the west. Some also is sent to San Francisco, Chicago, and New York City.



An old Trapper

Some Canadian fur is kept and prepared for use in the United States, but most of it is sent to London, and to Leipzig in Germany. These cities have long held a reputation for skill in the preparation and manufacture of furs, and, with the city of Nijni Novgorod in Russia, are the great fur markets of the world.



**The most famous Fur Store in Canada**

1. Name ports from which Canadian lumber may be shipped to European countries.
2. Name a port from which Canadian lumber may be shipped from the southwestern part of the country.
3. Prince Rupert and Port Simpson are becoming important Pacific ports. About how much farther north are they than Vancouver?
4. Why have not the forests been cleared from so large a territory in Canada as in the United States?
5. If the large forests should be exhausted, what effect would this probably have upon the price of newspapers?
6. The Hudson Bay Company has more than one hundred trading posts in Canada. Why are so many needed?
7. Edmonton is the greatest center for raw furs in the Western Hemisphere. In what part of Alberta is it?
8. Prince Albert is a center for trade in furs. On what river is it?

#### 4. Various Industries and Cities

There are many valuable mines in Canada and doubtless others will be discovered as the country becomes more fully settled and remote parts are better known.

There are coal mines in Nova Scotia and other eastern provinces, and in western Canada. Although these mines do not yield a very great amount, the supply of wood for fuel is so plentiful that coal is not so necessary as in many other countries.

There are rich gold mines in the Klondike region, in the northwestern part of Canada near the boundary of Alaska.



Gold Miners in the Klondike Region

Recently valuable mines of cobalt and silver have been discovered. Cobalt is similar to silver in appearance, and the two metals are commonly found in the same mines.

The Canadian cobalt and silver district, in which the new mining town of Cobalt has sprung up, is situated about three hundred miles north of the city of Toronto. These valuable metals were discovered by Indian hunters, but white people soon profited by the discovery. The Indians, who were accustomed to paddle along the

shore of a small lake, left their canoes occasionally and looked for a mineral substance from which they made bullets. Some white men learning of this, investigated the movements of the Indians, and immediately staked out claims upon the land. The mines in this region are now worth many millions of dollars.



Chateau Frontenac and Dufferin Terrace, Quebec

From the nickel mines of Sudbury is obtained the metal from which our nickels are made in the mints of the United States.

The province of Quebec produces a very large part of the world's supply of asbestos. This mineral is composed of fibers that can be woven into sheets like coarse cloth. Fire will not burn it and heat will not readily pass through it. It is used for the covering of boilers and steam pipes, in the manufacture of fire-proof paints, and for other purposes.

Fishing is an occupation of great importance among Canadian people. Fish abound in the cold waters of the lakes and rivers as well as in the ocean. There are great numbers of halibut, cod, and herring in the waters of British Columbia. The Canadian Government permits American vessels to land fish at Van-



A View in Montreal

couver, and halibut is forwarded from that city to the Boston market in cold-storage express cars. Much fish is smoked and dried on the Pacific coast of Canada. Japanese prepare a large quantity of salt codfish and herring there and ship it to Japan.

In Canada, as in the United States, the largest cities are in the eastern part of the country. The east was settled first; there is more business done there, and the commerce between Canada and other countries is mostly by way of the Atlantic Ocean.

We should expect to find the most important cities

on the St. Lawrence River. Quebec, on the north bank of that river, is one of the oldest cities in the New World. It was founded by the French, who were the first to make a settlement in Canada, and it is a center of great historic interest.

For a time Quebec was the largest city of Canada, but afterward its location was found not to be the



Vessels in the Lachine Locks

most favorable. Large ocean vessels can proceed farther up the river; and as the country farther west became settled, the natural place for the commercial center was as far up the river as these vessels were able to go.

On this account the younger city of Montreal has taken the lead. It is situated just below a fall in the river, called the Lachine Rapids. A canal around these rapids, and several other canals around falls and rapids in the rivers above, make it possible for smaller boats to proceed from Montreal along the entire length of the

Great Lakes to the western shore of Lake Superior. The Ottawa River gives the city easy communication with the northwest. Railroads connect it with various parts of Canada and the United States, and a large amount of manufacturing is done there.

Although Montreal is a thousand miles inland and has the same longitude as that of New York City, it is



**Parliament Building of the Province of Ontario, Toronto**

still three hundred miles nearer Liverpool than New York is. To its disadvantage, the St. Lawrence is frozen over in winter and then its communication with Europe is by way of a railroad to Portland on the coast of Maine. So large a proportion of the people of Montreal speak the French language that newspapers and street signs are printed in both French and English.

The second largest city of Canada is Toronto. It is situated upon a good harbor on the shore of Lake Ontario. It is the trade center for a large agricultural region.

Ottawa, the capital of the Dominion of Canada, is

situated near a large waterfall and a great amount of lumber is manufactured there.

In some respects Winnipeg is to western Canada what Chicago is to our own Middle West. It is the center for a great grain region. It furnishes the farming



**The Dominion Parliament Building, Ottawa**

region with supplies, manufactures a great amount of flour, and ships away flour and grain.

Vancouver, on the western coast, is at the terminus of the Canadian Pacific Railway. From that city steamships make regular trips to the ports of China and Japan. Near Vancouver is Esquimalt, the most important British naval station on the Pacific Ocean.

1. Iron ore is found in abundance in some sections of Canada. Can you give reasons why but little iron is mined?
2. Name cities of the United States that are about as large as Montreal.
3. What city of the United States has a situation on Lake Superior similar to that of Port Arthur in Canada?

4. There are steamship lines to Europe from Montreal, from St. John, and from Halifax. Which of these cities is nearest to England?
5. Yarmouth is a noted fishing port. Where is it situated?
6. Large quantities of salmon are canned on the Fraser River. Into what body of water does that river flow?
7. Dawson is the capital of Yukon territory. About how far is it from the boundary of Alaska?
8. Banff is a pleasure resort in the Rocky Mountains. In what part of Alberta is it?
9. How far is the city of Victoria from Vancouver?



St. Johns Harbor

### 5. Newfoundland, Labrador, and Greenland

Opposite the mouth of the St. Lawrence River is the large island of Newfoundland. This island, together with a strip of the coast farther north called Labrador, forms a separate province of Great Britain. Although all the other provinces have united to form the Dominion of Canada, this province has maintained a special government of its own, with a governor appointed by the king of England. The chief city and government seat is St. Johns.

The island was first discovered by John Cabot in the year 1497. He found it inhabited by a tribe of Indians, all of whom have now passed away.

The climate of Newfoundland is moderate. In the interior there is land suitable for agriculture, and large forests that yield wood for the manufacture of pulp. English capitalists are building railroads from the coast to the interior and erecting pulp mills in order to obtain a supply of material for printing London newspapers.



A Catch of Cod

But most of the people of Newfoundland choose to live near the shore because they find more profitable occupation on the sea than on the land.

The early explorers found fish abundant in the waters around Newfoundland, and many vessels came from countries of Europe to the new fishing grounds. The Grand Banks, a shallow section of the ocean southeast of Newfoundland, is the world's greatest fishing ground for codfish. The Arctic current brings down to the Grand Banks a slimy substance consisting of minute living organisms that furnish food for immense numbers of fish. Numerous bays along the shore provide good harbors for vessels.

The dense fog, that is very common on the Newfoundland fishing ground, renders the life of the fishermen very dangerous. One of the best courses for steamers between Europe and America is directly across the Grand Banks, and in the dense fog small fishing vessels are in constant danger of being sunk by passing ships. Fishermen who row about in small dories to examine the trawls sometimes lose their course in the fog or are driven away by storms.

In the early spring, before the fishing season begins, many seals are caught by Newfoundland fishermen. These hair seals, as they are called, are found on blocks of ice floating down from the north. Their skins are valuable for leather, and oil is produced from the fat of their bodies.

Catching fish and seals is also the chief occupation along the



Labrador Eskimos in Summer

coast of Labrador. In summer a great number of fishermen go to Labrador from Newfoundland and points farther south. At this season the population of Labrador is often increased to thirty thousand people, though there are not more than three or four thousand permanent inhabitants. Many of these are

native Eskimos, who live chiefly by hunting land and sea animals. Some of the Labrador Eskimos, however, have adopted the customs of the civilized people with whom they trade. They are generally very poor and often suffer severe hardships.

Greenland, an island that lies near the northern portion of Canada, is so far north that it is of comparatively little account for human habitation. Its name is due to mistaken notions of the early explorers who sailed along its shores in summer. It is covered with a very deep mass of snow and ice, which disappears in summer from only a narrow strip along the shore.

The few inhabitants are mostly Eskimos. The land belongs to the country of Denmark, and the Danes carry on trade with the native Eskimos and endeavor to improve their condition. In the summer Danish ships bring to Greenland loads of supplies which are exchanged in trade with the Eskimos for sealskins, seal oil, feathers, and some other articles.

1. What waters surround Newfoundland?
2. From what country did the explorer, John Cabot, come?
3. In what part of Newfoundland is St. Johns, the chief port?
4. How does the latitude of the northern part of Labrador compare with that of the southern part of Greenland?
5. Why is it difficult to know whether Greenland is a single island or composed of several islands?
6. What waters separate North America and Greenland?
7. Name the cape at the southern point of Greenland.
8. The most northern of the Danish trading stations is Upernavik. What is its latitude?
9. Godthaab is an important settlement on the western coast of Greenland. How much farther south is it than Upernavik?



### 6. The Frozen North

The northern portion of North America, including parts of the mainland and the large islands near, is known as the Arctic Coastal Plain. It is sometimes called the Barren Ground, and sometimes the Tundra, which means a frozen morass.

This northern plain is not entirely barren, but is covered with mosses and lichens. In the short summer many small flowers spring up and blossom. In some sheltered places the Arctic willow grows to a height of four or five feet.

Beneath the covering of vegetation there is an immense mass of ice. In some places this ice has been found to be from one hundred and fifty to three hundred feet thick. During winter the plain is covered with snow, which melts in the spring, converting the whole territory into a vast swamp.

Because of the severity of the climate and the scarcity of food but little animal life is to be found in these regions of the far north. Many migrating birds spend the summer there. Large herds of caribou, called the

Barren Ground caribou, spend the summer in the northern portions of Labrador and some other parts of the northern territory, but in winter they seek the shelter of forests farther south.



Caribou

The musk ox is an animal peculiar to the Arctic Plains. It lives mostly beyond the Arctic Circle on the Barren

Ground of Canada, the large Arctic islands, and the borders of Greenland. It is provided with a heavy covering of hair as a protection against the cold, and with flat feet that enable it to find food by scraping away the snow.

Whale fishing has been pursued for many years in the waters of these Arctic regions. There are many varieties of whales. Some are found in the warm parts of the sea, but other valuable varieties are now most abundant in the Arctic Ocean and the waters leading to it. It is said that the best whale-fishing ground in the world is in the Arctic Ocean near the mouth of the Mackenzie River.

Whale fishing was once an important occupation. About the middle of the last century there were over seven hundred American vessels and many thousand men engaged in that industry. The value of oil and whalebone obtained every year amounted to millions of dollars. The sperm whale was then particularly valuable on account of the great amount of oil that it yielded.

Vessels in search of sperm whales cruised on the ocean from Newfoundland to South America. Sperm oil and seal oil then served most purposes for which oil was used. But whales became scarce and the discovery of petroleum provided a cheaper and better product. The result was that the whale fisheries declined.



**Musk Ox**

At the present time there are comparatively few vessels engaged in whale fishing, but small fleets still make voyages to northern waters. Although whale oil is not so much in demand as formerly, whalebone is very scarce and valuable. It is now used principally for manufacturing whips. No other substance has been found that will serve the purpose so well.

Whalebone is not really a part of the bone of the animal, but consists of long strips, or plates, arranged in rows between the jaws of some varieties of whales. These whales feed upon a slimy substance that is formed in the ocean water. A mouthful of water containing the food is taken in and is then forced out between the plates of whalebone. Hairy fringes on the plates serve as strainers to hold back the food.

Whales are among the most peculiar animals that dwell in the sea. They have warm blood like land animals, and are obliged to come to the surface frequently to breathe. It is for this reason that whales are so easily caught.

Formerly it was necessary for sailors to row to a whale in a small boat and thrust a harpoon into him, and at that time whale fishing was very dangerous. At present the whales are speared from the decks of steamboats. A harpoon attached to a rope and containing an explosive point, or bomb, is shot into the whale, which is usually instantly killed by the explosion of the bomb.



**A Whaling Vessel in the Arctic Ocean**

The huge body is then drawn to the surface, a tube is inserted into it, and air enough is pumped in to cause it to float. After this the fat blubber and the whalebone are removed and hoisted into the vessel.

At some points along the northern coast whales are towed ashore to whale factories, where they are first drawn out of the water upon platforms. No part of a whale is wasted. Even the bones are ground for a fertilizer.

Whaling fleets are sometimes in danger of being caught in fields of ice and prevented from returning south before the approach of winter. When a fleet fails



to return at the usual time, relief ships must be fitted out to rescue the sailors or provide them with supplies.

For hundreds of years brave adventurers from different countries have attempted to explore the Arctic regions farther north than Canada and Greenland, with the hope of reaching the North Pole.

Some early navigators believed that they could find a water passage around North America to the coast of Asia. Henry Hudson, who entered the Hudson River in 1609 and afterward discovered Hudson Bay, was in

search of such a passage. From more recent discoveries we know that, although there may be water passages around the northern shore of North America that are not frozen over in summer, they are liable to be filled at any time by masses of floating ice, and are therefore of no value for the purposes of commerce.

In recent years a number of special attempts have been made to discover the North Pole. Explorers have been led to this undertaking, partly from a desire to go where no human beings have ever been, and partly for the purpose of making valuable scientific observations upon such matters as the temperature, the pressure and motions of the air, and the depth of the ocean.

The difficulties of traveling in such a region are very great. Sufficient supplies of food must be taken, some of which must be left at certain points, called supply stations, where the food may be found on the return trip. Beyond the farthest land the journey is across vast fields of ice on which the force of the wind is liable to form high ridges of broken ice with open water between. In the extremely low temperature of from forty to sixty degrees below zero there must be a constant struggle to avoid freezing. During the journey it is necessary to watch a compass, as navigators watch one on the ocean, in order to keep to the right direction.

In September, 1909, the world was startled by the announcement that Commander Robert E. Peary, of the United States Navy, who had made several attempts to reach the Pole, had at last succeeded.

In the summer of 1908 he left New York, with a selected crew, in the steamer *Roosevelt*, took Eskimos

and Eskimo dogs from Greenland, and proceeded as far as Grant Land, near the northern coast of Greenland. After spending the long, dark winter there the party started for the north, carrying their supplies and equipments on sledges drawn by dogs, and on April 6 reached the point where the North Star is overhead and every direction is south. The result gives every American a thrill of pride, although nothing was found in the vicinity of the Pole but a dreary sea of ice.



**Traveling in the Polar Region**

1. About how many islands are there in the Arctic archipelago north of the mainland of Canada?
2. Give the names of several of these islands.
3. What waters separate Greenland from these islands?
4. Through what sound do explorers pass in going from Baffin Bay to the northern coast of Greenland?
5. What strait leads from Bering Sea into the Arctic Ocean?
6. What large river of Canada flows into the Arctic Ocean?
7. What sound is between Baffin Land and North Devon Island?
8. What sound is north of North Devon Island?
9. Where are Ellesmere Land and Grinnell Land?
10. In what direction from the northern extremity of Greenland is Grant Land?

### 7. Alaska

The northwestern portion of North America is a territory called Alaska, which belongs to the United States. It once belonged to Russia, a country whose possessions in northern Asia are separated from North America by Bering Strait.

In the year 1867 the United States purchased Alaska from Russia for the sum of \$7,200,000. Although this price amounted to only two cents per acre, our government officials were severely criticised for a transaction that seemed unwise. It was generally believed that land so far north could never be of any value. But time has proved that the judgment of the people was wrong. The wealth already obtained from the territory has amounted to many times its cost.

It is an interesting thought, which gives us pride in the great extent of our possessions, that as the natives of some of our islands lying west of the mainland of Alaska are busy with their basket weaving at sunset in summer, it is sunrise at the same time in the state of Maine.

If we were to make a journey across Alaska from south to north, we should first pass over a strip of mountainous country which extends along the Pacific coast. We should then come to a broad interior plateau, which is the basin of the Yukon River. We should next pass over another mountainous or hilly belt which is really a continuation of the Rocky Mountain System. Beyond this the land slopes toward the sea and is called the Arctic Slope.



The climate of the long mountainous section on the Pacific coast is similar to that of the coast of British Columbia and the states of Washington and Oregon, except that it is somewhat colder. Southwest winds from the ocean produce an abundance of rain and snow, which cover the hills with forests and fill the valleys with glaciers. These ocean winds also prevent great extremes of heat and cold. The winters along the coast, even in that northern latitude, are not more severe than those near the coast of New England.

Farther north, in the Yukon Valley, the mountains

shut off the influence of the ocean winds and the climate is very different. The temperature there sometimes falls to sixty or seventy degrees below zero. It might seem impossible for human beings to live in such a climate, but as currents of air pass over the mountains they become comparatively dry, and on this account the low temperature is less severely felt. Besides this, changes of temperature there are usually gradual, and the people become accustomed to them.



**Alaska Indian Basket Makers**

In the long days of summer it is warm throughout Alaska. Even along the Arctic coast buttercups and dandelions blossom in July and August.

The original natives of Alaska were Eskimos in the north and Indians in the south. There are now about thirty thousand in the territory. The Alaskan Eskimos are a hardy people and many of them are very intelligent. Those farthest north are the least civilized. The Eskimos of the Yukon Valley are somewhat like the Indians

in their appearance and manner of life. In southern Alaska the natives dress and work like white people.

On the borders of the forest along the southern coast and near the rivers there are numerous Indian villages of wooden huts. In front of many of the houses are tall poles, called totem poles, strangely carved in figures of birds and other animals. These are memorial posts to commemorate past events in the history of the families of the natives.



**An Alaskan Eskimo Village in Summer**

Both Eskimos and Indians are accustomed to live by hunting and fishing. In the summer they catch large quantities of river salmon and dry them for winter use. They are friendly to white settlers and learn to work with them in mining, lumbering, and other industries.

Great interest in Alaska was aroused in the year 1897, when gold was discovered in the valley of the Klondike River. In their eagerness to reach the newly discovered riches thousands of people endured the greatest hardships. They were obliged to climb mountains, journey

through deep snows, and shoot dangerous river rapids upon poorly made rafts.

In the summer months steamboats crowded with prospectors began to make the long voyage of several thousand miles from Seattle, through Bering Sea, and up the Yukon River. Since then a railroad has been built from



**Gold-saving Washing Machine in Alaska**

the port of Skagway over White Pass to the town of White Horse, from which passage is made down the river. This renders the journey to the Klondike gold fields much shorter.

The region in which gold was first discovered is partly on the Canadian side of the boundary line and partly in Alaska. The town of Dawson on the Canadian side and the towns of Eagle and Circle on the Alaskan side sprang up quickly as mining centers.

Gold in Alaska is obtained by the process called placer mining, which consists in washing particles out of sand,

usually in the valleys of brooks and rivers. A common method is called sluicing. A long spout with riffles across the bottom is so arranged that running water will



**Dawson and the Yukon River**

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pass through it. When sand is shoveled in, the water carries away the lighter material and the heavy particles of gold sink and are caught behind the riffles.

The ground in central and northern Alaska is frozen to a great depth. The warmth of summer thaws only a small amount on the surface. Miners must make use

of only so much ground as is thawed by the sun, or else thaw it with fires or by the use of steam.

Since the time of the first discovery of gold in the Klondike district, gold-bearing sand has been found in other parts of Alaska. One of the most valuable min-



**Digging for Gold at Cape Nome**

ing districts is at Cape Nome, where the sand on the seashore is rich with gold particles. There the ground is thawed by steam to a depth of fifty or sixty feet. Particles of gold found at that depth are so large that they can be seen with the naked eye. There are valuable gold mines also on the peninsulas and islands along the southern coast.

Gold is not the only valuable mineral in Alaska. There are veins of copper and of both soft coal and hard coal in the mountainous districts of the south. It has

been found that there are coal beds there several thousand square miles in extent, which may prove to be worth hundreds of millions of dollars. Hard coal from the coast of Alaska will be much appreciated by our Pacific coast states, which have been obliged to obtain their supply by thousands of miles of railroad from the mines of Pennsylvania.



**A Dog Team in Alaska**

From recent discoveries of copper ore it is believed that the copper mines of Alaska are among the richest in the world. But these mines of coal and copper cannot be developed with profit until they can be reached by railroads. Several short lines have already been built and others will soon be constructed.

It is expected that railroads will soon be extended from the coast through mountain passes to the grassy plains of the Yukon Valley. The United States Department of Agriculture is endeavoring to show that profitable agriculture is possible even in that northern

latitude. Several experiment stations, which have been established there, have proved that garden vegetables may be ripened and good crops of oats and hay may be raised. It is claimed that Alaska contains one hundred thousand square miles of land well adapted to agriculture. But the short seasons in which agricultural work can be done, the dreariness of the long, dark winters,



Seals on the Beach

and the want of any mail or news from the outer world except what is brought occasionally by dog teams will delay the improvement of this land, at least until the more highly favored regions of the earth have become more densely populated.

At present the products of the rivers and the sea about Alaska are next in importance to the products of the mines. Fish of various kinds are plentiful in these cool waters and may become a source of much wealth.

The Alaskan seals are well known throughout the world for their valuable fur. These seals live much of the time in the sea, but every spring they assemble

upon the Pribilof Islands, where they rear their young. By a contract with the United States Government a single company is granted the sole right to go to the islands and kill a certain number of male seals each year. The males are much larger than the females. Some of them will weigh as much as four or five hundred pounds. All other killing is forbidden by law, but as the seals are scattered about in the sea many are killed in violation of the law and there is danger that they may thus be entirely destroyed.

The Alaskan seal is covered with a coat of coarse hairs, or bristles, but beneath these there is an inner coat of very soft fur. When a sealskin is prepared for use, it is shaved very thin from the inside. This process cuts off the roots of the long hairs, so that they are easily removed.

There are now thousands of white settlers in Alaska at the mining centers and in towns and villages on the coast. Our Government is making great improvements in the territory. Many American teachers



**Government Reindeer in Alaska**

are sent there to open schools for both white settlers and native Eskimos and Indians. A most interesting experiment in the education of the northern Eskimos has been

an effort made by the Government to teach those Eskimos the use of the reindeer. The reindeer are imported from Siberia, and young Eskimos are given a course of training in caring for them and making them useful. After a young man has completed the training course, he is presented with a number of animals with which to start a herd. The instruction and training are given by the schoolmaster in connection with school work. The reindeer will be a great help to the Eskimos in making their life more comfortable.

Even as far north as Point Barrow on the shore of the Arctic Ocean, which is the most northern land belonging to the United States, there is a school for Eskimos in the charge of an American teacher.

1. Mt. McKinley is the highest mountain in North America. In what part of Alaska is it?

2. Name two other mountain peaks in Alaska.

3. Name the long peninsula in southwestern Alaska.

4. What long group of islands is a continuation of this peninsula?

5. In what direction from the mouth of the Yukon River are the Pribilof Islands?

6. Juneau is the chief town of southeastern Alaska. In what direction is it from Skagway?

7. Sitka is a beautiful town and a trading center. On what island is it?

8. Rampart and Fairbanks are new and thriving towns. Where are they situated?

9. There is a good harbor at Valdez. How far is it from Sitka?

10. St. Michael is an important port. About how far is it from the mouth of the Yukon?

11. In about what latitude is Point Barrow?

12. About how much farther north is Sitka than the city of Boston?

13. Estimate the length of a voyage from Seattle, in the state of Washington, to St. Michael.

14. Make a map of Alaska, locating the most important rivers, towns, and other features of interest.



Sitka, Alaska

### REVIEW

1. In what respects is Canada similar to the United States?
2. Explain the climate of Canada.
3. Tell about the native Indians of Canada.
4. Why do many people in Canada speak the French language?
5. What can you say about the number of people in Canada?
6. Tell about the present government of the country.
7. Explain why wheat can be raised very far north in Canada.
8. Describe the wheat regions of western Canada.
9. Explain why the cold is less severe in western Canada than it would be in some other localities at the same temperature.
10. Explain the purpose of a railroad line to Hudson Bay.
11. How can you account for the fact that the western shore of Hudson Bay is nearer to Europe than New York City is?
12. What can you say about the extent of the forests of Canada?
13. Describe the great spruce belt of Canada.
14. Describe the southern timber belt.
15. Describe the British Columbia forest belt.
16. Explain how furs are collected by the Hudson Bay Company.
17. Name the principal fur-bearing animals that are found in the Canadian woods.



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**Canadian Pacific Railway Station at Vancouver**

18. To what markets is Canadian fur mostly sent?
19. Tell about the coal mines of Canada.
20. How were the cobalt mines discovered?
21. What is asbestos, and in what part of Canada is it found?
22. Tell about the fishing industry of the Pacific coast.
23. Why are the largest cities of Canada in the eastern part of the country?
24. Tell about the city of Quebec.
25. Tell about the city of Montreal.
26. Describe the second largest city of Canada.
27. Describe the capital city.
28. Tell about Winnipeg.
29. Tell about Vancouver.
30. Explain the government of Newfoundland and Labrador.
31. Describe Newfoundland.
32. Explain the fishing industry of Newfoundland.
33. Why is fishing near Newfoundland a dangerous occupation?
34. Tell about the inhabitants of Labrador.
35. Describe Greenland.
36. Tell about the inhabitants of Greenland.
37. Describe the Arctic Coastal Plain.
38. What animals are found on this plain?

39. Explain the industry of whale fishing as it was formerly carried on.

40. What is whale-bone?

41. Explain how whales are caught.

42. Why have explorers desired to reach the North Pole?



**A Totem Pole**



**Prospecting for Gold in Alaska**

43. Explain the difficulties of traveling in the polar region.

44. Give an account of the discovery of the North Pole by Robert E. Peary.

45. Tell about the purchase of Alaska by the United States.

46. Describe the physical features of Alaska.

47. Explain the climate of Alaska.

48. Tell about the Alaskan Eskimos.

49. Tell about Alaskan Indians.

50. Tell about the discovery of gold in Alaska.

51. What is the method of gold mining in Alaska?

52. Tell about the coal and copper mines.

53. Tell about agriculture in the Yukon Valley.

54. State some of the disadvantages of life in Alaska.

55. Tell about the seal industry of the Pribilof Islands.

56. Explain how sealskins are prepared for use.

57. Tell about the schools of Alaska.

### 8. Mexico

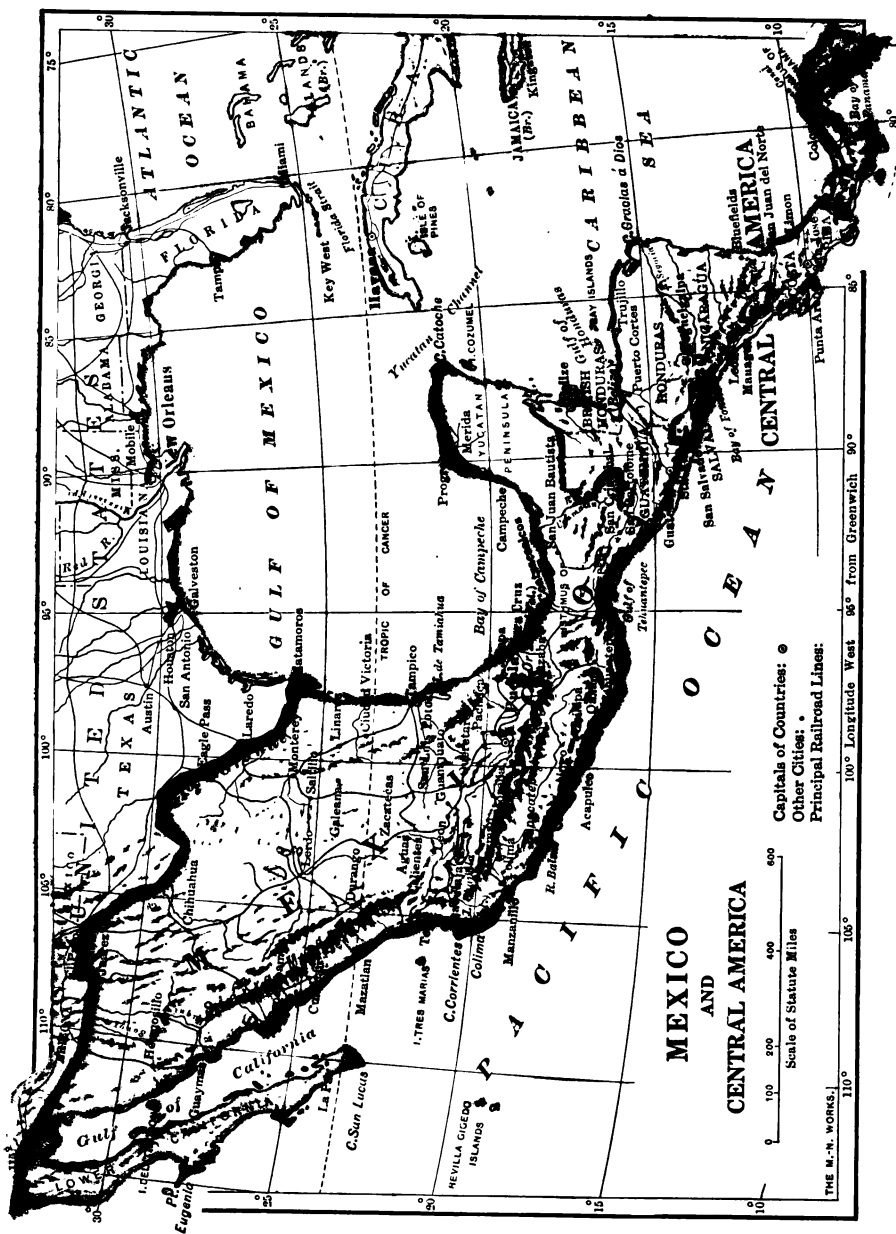
We have not been so deeply interested in the country that is our nearest neighbor on the south as in Canada upon the north. The people of Mexico do not speak our language, as a majority of the Canadians do, and their country has no vast agricultural plains and forests



A fertile Valley in Mexico

to attract American settlers, as Canada has. Yet many of our business men have invested money in Mexican enterprises, and the two countries are constantly becoming better acquainted.

Mexico is a more mountainous country than the United States. The mountain ranges and plateaus of the West extend south through Mexico, and that country is so much narrower than ours that these mountains and plateaus occupy the greater part of it. Two long



ranges run near the eastern and western coasts. The western range is more lofty than the eastern. In the southern part of the country there are high volcanoes, some of which are still active.

Incorrect ideas about the climate of Mexico are common. Because it is so far south we are accustomed to think of it as a very warm country. We forget that the elevation of land may produce greater effects in temperature than distances north and south.



An Aqueduct built by Cortez in the City of Mexico

There are great variations of climate in different parts of Mexico. On the lowlands, between the mountains and the coast, it is very warm; on the highlands, or plateaus, it is temperate; on the high mountain ridges it may be very cold. Some of the mountains are perpetually covered with snow.

A large part of northern Mexico is arid, like the plateau regions of the United States. There only sagebrush and varieties of cactus are to be seen. In the southern part there is a great amount of rain.

Soon after America was discovered, Cortez with his Spanish soldiers invaded Mexico, conquered the natives, and took possession of the country in the name of Spain. The most enlightened of the native Indian inhabitants were the Aztecs. These were very intelligent and had become partially civilized. They lived in houses and raised crops by irrigation.



Guanajuato in Central Mexico

The Spaniards had control over Mexico, including what is now the southern part of the United States, for about three centuries. They developed mines to some extent and engaged in farming and stock raising. But the government of the Spanish rulers was so bad that the people rebelled and gained their independence in the year 1821. Following the example of the United States, the Mexicans established a republic with separate states and a central government.

About one half of the present inhabitants of Mexico are of mixed Indian and Spanish blood and are called

Mestizos. Most of the remainder are Indians who belong to a great number of different tribes. There are comparatively few white people. These are mostly descendants of the Spanish settlers.

The Spaniards and the Mestizos possess the greater part of the wealth. The Indians and the poorest Mestizos form the laboring class and are called peons. The peons lead a very simple life. Their chief food is



Street of the Merchants, Puebla, Mexico

Indian corn, which they prepare by first soaking in lime-water until it is soft, then rubbing it into paste, and baking it in cakes over charcoal fires.

These poor people are usually in debt to their employers, and, according to the laws of Mexico, must work for the same employers until the debts are paid. From their small wages they are often unable to pay their debts and hence are held in practical slavery.

Men in Mexico are accustomed to wear hats with broad brims, and the women usually wear black shawls over their heads. Houses are built with flat roofs and without chimneys. There is no need of chimneys since heating and cooking are done with a charcoal fire that does not produce smoke. In the towns and cities houses are mostly built close to the sidewalks, but each house is built around the four sides of a small garden containing trees and flowers. The houses are painted red, blue, or yellow. In each city there is a large square, called the plaza, usually located in front of the cathedral, where the people promenade in the evening and listen to bands of music.



A modern Mexican House

1. Name the bodies of water by which Mexico is surrounded.
2. What river flows into the Gulf of California?
3. About how long is the peninsula of Lower California?
4. What river forms a part of the boundary between the United States and Mexico?
5. Name the states of the United States that border on Mexico.
6. Why are there no very large rivers in Mexico?
7. How has the absence of navigable rivers rendered the development of the country slower?
8. Mt. Orizaba is about three and a half miles high. In what part of Mexico is it?

### 9. The Resources of Mexico

The great variation in the climate of Mexico, due to differences in elevation, gives that country a great variety of vegetation and agricultural products.

On a journey from the coast to the tablelands of the interior we should pass first across a belt of lowland covered with tropical forests of mahogany, rosewood, logwood, and rubber trees, and with fields of sugar cane, rice, tobacco, and tropical fruits. After beginning to ascend from this plain to more elevated regions, we should pass through coffee and banana plantations. Among the mountains we should begin to see forests of oak and pine and fields of corn and wheat, which are the usual products of the temperate zone.

On the plateaus of the interior the climate is agreeable and healthful. The rainfall there is small, and crops are raised by irrigation. A large part of the plateau region in the central and northern parts is used for pasturing herds of cattle. Some of these ranches, which are called haciendas, are of immense size.

A very common plant in many parts of Mexico is the agave, or century plant. Another name for it is the maguey plant. It has long, pointed leaves and a stalk that sometimes grows to a height of thirty or forty feet and bears white flowers at the top. It is called the century plant from the fact that it does not produce flowers until after many years, although the time is less than a century. The thick leaves of this plant contain sap enough to last through a long period of dry weather. The plant is therefore adapted to arid regions.

From the sap of the maguey plant the Mexicans produce a kind of beer which they call pulque. Fondness for this has become so common in the country that it may be regarded as their national drink.

A large cone grows in the center of the plant among its leaves. By cutting this out a hollow is made in the form of a bowl. As the sap of the plant fills this bowl it is col-



**Maguey Plant**

lected and prepared for use by fermenting. A single plant may yield two or three gallons of sap a day and continue to do so for several months.

Another plant of the same general family is largely produced in parts of Mexico for the sake of the long, tough fibers that support its heavy leaves. The leaves are cut off and left until the fleshy matter becomes softened. Then the latter is scraped away and the fibers are dried and pressed in bales for the market. These fibers are called sisal hemp, or henequen.

The production of henequen has been a source of much wealth in the peninsula of Yucatan. A large amount of it finds a market in the United States. It is used for bagging, hammocks and ropes. Many of the hammocks that are sold in our markets have been woven by the Indian women of Yucatan.

The greatest wealth of Mexico has thus far been obtained from its mines, particularly from its rich silver mines. The chief purpose of the Spaniards in exploring the country and conquering the people was to obtain gold and silver. Some mines had already been worked by the Indians, who made silver articles and wore gold ornaments. The Indian emperor Montezuma presented to Cortez immense plates of gold and silver. Hundreds



**A Sisal Plantation**

of mines have been discovered and developed since that time, and Mexico has become one of the leading silver-producing countries of the world.

On account of ignorance the mining methods of the Mexicans have been very crude and slow. For three centuries the greater part of their silver has been obtained in a very clumsy and expensive manner. By this method the ore is ground into powder, mixed with water, quicksilver, and some other substances, spread out on a paved court, and stirred for weeks by the tramping of horses and mules. Then the dirt is washed away and

the silver is separated from the quicksilver. Recently American and European miners have introduced machinery and more profitable methods.

Besides silver, the country now produces a large amount of copper and considerable gold and lead. The smelting of iron ore is also increasing.

A peculiarly interesting mining industry is carried on in the volcano of Popocatepetl. This volcano is some-



**Mules treading Silver Ore**

times called the Vesuvius of America because of its resemblance to Mt. Vesuvius in Italy. Clouds of steam rise continually from its summit, and at night the sky is lighted by the glow from its hot crater.

Sulphur is formed by the action of volcanoes, and is obtained in parts of the world where volcanoes formerly existed but have become extinct. The Mexicans have obtained sulphur from Popocatepetl for several centuries, without waiting for its fires to die out. Cortez obtained from this mountain a supply of sulphur which

he used in manufacturing gunpowder for his soldiers. Since the time of Cortez the industry has been carried on by very toilsome methods. Down in the crater poor peons have toiled day after day, some of them for the greater part of their lives. They have filled sacks with the mineral and have carried these on their backs to the



**Mount Popocatepetl**

edge of the crater, where the sulphur has been hoisted to the surface and carried on mules down the mountain to the railway station.

A company of American capitalists have purchased the top of the mountain and will hereafter apply more convenient methods. The sulphur will be carried in the pockets of a long tramway over the edge of the crater and down to the refining factories.

The capital and largest city of the country is Mexico City. It is situated nearly ten thousand feet above sea level, where the climate is cool and dry. The city contains a very large cathedral and other fine public build-

ings. The country around is watered by irrigation and is green with farm crops.

On account of the absence of large rivers and sheltered bays there is a lack of good natural harbors on the Mexican coast. The necessity of anchoring ships and unloading their cargoes by small lighters in the open sea



**Mexico City, looking northeast from the Cathedral**

has been a great disadvantage to commerce. To overcome this difficulty immense walls are built out into the sea around a harbor. This protects ships from storm waves and enables them to lie at the wharves in safety.

At Vera Cruz a breakwater two miles long has been constructed at a cost of \$30,000,000. The harbor of Tampico has also been protected by a breakwater. Acapulco, on the west coast, has a better natural harbor, but the high mountains behind that port render communication with the interior very expensive.

During a long period of good government and general

improvement in thrift and wealth Mexico has gained an excellent reputation among the nations of the world. Foreign capitalists now have no hesitation in investing money in Mexican mines and Mexican railroads. Hundreds of millions of dollars of American money have been expended in this neighboring republic in developing mines, building railroads and factories, constructing dams



The Jetties at Tampico

for irrigation, and surrounding harbors with breakwaters. Indeed, the prosperity of Mexico is to be considered as in large measure our own prosperity.

1. Why have the tablelands of the interior of Mexico a dry climate?
2. How are the snow-capped mountains an advantage for irrigation?
3. Why is it expensive to send freight to the city of Mexico?
4. Name cities of the United States that are about as large as Mexico City.
5. Name the ports connected by the railroad that has been built across the isthmus of Tehuantepec.
6. Puebla is near one of the ancient pueblos, or cities of the Aztecs. In what part of Mexico is it?
7. Locate the three ports of Vera Cruz, Tampico, and Acapulco.
8. Make a map of Mexico and locate the cities that have been mentioned.

### 10. Central America

The great mountain system of western North America, that extends through Canada, the United States, and Mexico, is continued through the entire length of Central America, although in that country the elevation is much less than in the northern countries.

Among the mountains and highlands of Central America are many volcanic cones, some of which are still active. In several sections there is constant danger of disaster from the eruptions of volcanoes or from earthquakes. Destruction from these causes has been so frequent that the inhabitants of entire towns have been obliged to abandon their homes and build new ones in more favorable locations.

Central America is so far south that on the lowlands between the mountains and the coast its climate is very warm, but there are sections in the more elevated and mountainous regions where it is comfortable throughout the year. The coast regions are more familiar to travelers than the interior, and it has generally been supposed that a country with such a hot, moist climate would always be unsuitable for settlement by white men. But it has been found that fevers and malaria are spread by mosquitoes that breed in marshy places, and that if the swamps and marshes are drained and other sanitary precautions taken, these warm regions may be made as healthful as other parts of the world.

Columbus, on one of his voyages, landed on the coast of Central America. Afterward Spanish settlements were established here and there and the whole country

was claimed for Spain, with the exception of the territory now called British Honduras, or Belize, which Englishmen had occupied for the purpose of cutting logwood.

The people of Central America joined with the Mexicans in the rebellion against Spain, and after that re-



A Native Hut in the Interior

bellion became successful, they formed several small republics. As in Mexico, the inhabitants consist mainly of Spaniards, native Indians, and half-breeds, although the proportion of

native Indians is greater than in Mexico. Some of the Indians in remote districts are still but little civilized.

A republican form of government was adopted by the small countries of Central America in imitation of the example of the United States and Mexico. The people of these countries were not wise enough to understand that while our form of government may be the best for an educated and enlightened people, it is not well suited to the needs of all countries. Wherever most of the people are very ignorant and the enlightened few have no high ideals of patriotism, great difficulties arise in the management of such a government. A revolution is liable to be started at any time by some selfish and ambitious leader who may succeed in obtaining the assistance of a band of ignorant followers.

Wars and turmoils have been so frequent among these countries that improvement has been very slow. For many years the United States Government has been endeavoring to render assistance in keeping peace among the Spanish-American countries, which include Mexico and the countries of Central America and South America. As a result of these efforts an organization has been formed called "The International Bureau of American Republics." The



City Market, Masaya, Nicaragua

headquarters of this bureau is at the city of Washington, and its officials are doing all that they can, by extending information about the various countries, to promote better acquaintance, friendly relations, and trade among all the nations of the Western Hemisphere.

When good government is established in the states of Central America, when education becomes general, and the people learn to take advantage of the wealth that nature has bestowed upon them, they may become rich and prosperous.

The soil of the country is generally very fertile and will yield large crops of sugar cane, coffee, or tropical

fruits. Many of the best bananas in our markets are brought on fast-sailing steamers from the Central American state of Costa Rica.

The forests contain large timber trees of valuable varieties, such as mahogany, ebony, and rosewood.



Guatemala City

This timber is usually dragged to the banks of rivers, floated to the sea, and then shipped to foreign markets.

Guatemala is the most populous and prosperous of the Central American republics. A large part of it is sufficiently elevated

to insure a comfortable climate, and in its fertile soil almost any crop will thrive that is produced in temperate or tropical parts of the earth.

The city of Guatemala is the chief city of Central America. It is nearly five thousand feet above sea level. Until recently the only communication with the city of Guatemala was from the Pacific coast, and it was but little known to the world. A railway now connects it with the opposite coast so that it is more easily reached. Many travelers are surprised to find in the Central American highlands a city of more than

one hundred thousand people, in a beautiful location, and containing fine buildings and beautiful parks.

In the forests of Central America and the southern part of Mexico are wild animals, including the jaguar, the cougar, wild swine, deer, monkey, and birds of beautiful plumage. There are also poisonous snakes and insects.



**Coffee in Blossom**

1. Name in order of location the six countries of Central America.
2. Name these countries in the order of their size.
3. Columbus landed on the coast of Honduras. In what part of Central America is that country?
4. Next after Guatemala, Salvador is the most progressive of the six republics. In what direction from Guatemala is Salvador?
5. The city of San Salvador has been removed to its present location on account of earthquakes. Where is it now situated?
6. The name Costa Rica means rich coast. In what part of Central America is that country?
7. Lake Nicaragua is about ninety miles long. Lake Erie is about how many times as long as that lake?
8. Make a map of Central America, showing the six republics and the principal cities.

## II. Panama

Formerly Panama was a part of Colombia, the adjoining country of South America, but now it is one of the independent countries of Central America.

We are specially interested in this small republic because our Government is constructing a canal across it from the Caribbean Sea to the Gulf of Panama.

The plan for a ship canal across the Isthmus of Panama has been before the countries of the world for many years. The advantages of a canal that would enable ships to pass from the Atlantic to the Pacific without the long voyage around South America have been well understood.

Soon after the discovery of gold in California a railroad was built across the isthmus to shorten the journey to our Pacific coast. But the railroad does not remove the need of a canal. It costs so much more to carry goods by railroads than on ships, and the inconvenience and expense of unloading and loading at both ends of the railroad line are so great, that it has been found cheaper to send some goods around South America, eight thousand miles farther, than to make use of the Panama Railroad.

The difficulties and expense of building a canal have been so great that the plan has not been accomplished until the present time. De Lesseps, a French engineer who succeeded in building the Suez Canal, once organized a company and undertook to build a canal across the Isthmus of Panama, but the work was not well managed. The expense was found to be much greater

than had been estimated, and thousands of workmen died because of unhealthful conditions. The company therefore failed and the project was abandoned.

At the time when the United States decided to undertake the building of the canal, the territory that it would be necessary to cross belonged to Colombia. When that country interfered with the plan by failing to grant to the United States satisfactory terms, the inhabitants of the isthmus became indignant, seceded from Colombia, and organized an independent republic.

By a treaty with the new republic the United States gained control over a strip of territory called the Canal Zone. This territory is ten miles wide and as long as the canal.

It was necessary, first of all, for our Government to expend much time and money in making conditions healthful for workmen. It is said that the number of



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**Relief Map of the Panama Canal, planned  
by the French**

laborers who died while building the Panama Railroad was greater than the number of sleepers beneath the rails. But it has been found that the prevalence of disease in tropical countries is due chiefly to the careless customs of the inhabitants. By providing the towns with proper drainage and water supply, by destroying germ-spreading mosquitoes, and by establishing suitable boarding



**Digging Culebra Cut**

Where the canal passes across the mountains

houses and hospitals, our Government has made the conditions of living as healthful in the Canal Zone as they are in temperate regions.

One great difficulty in the construction of the

canal was the fact that the mountain chain of Central America, although of diminished altitude in Panama, is still over half a mile high at the isthmus. It was a long time before the question could be decided whether we should build a sea-level canal, by digging out the lowest pass, or a lock canal, in which vessels would be raised to higher elevations by means of locks and lowered again on the other side. After long consideration the latter course was finally adopted.

There was also much anxiety as to whether it would be possible to construct a dam strong enough to hold the water of the Chagres River in time of flood and prevent it from flowing into the canal and working destruction.

The building of this canal is one of the greatest undertakings of modern times and is costing hundreds of millions of dollars. It will be a great advantage to



**Completed Section of Panama Canal, west of Colon**

many countries, and Americans are proud that it is to be completed and controlled by the United States.

When the canal is opened, the voyage from New York to San Francisco will be more than nine thousand miles shorter than it is now. This would be of great benefit to us if either coast were in danger of attack. Our warships could easily pass from one coast to the other and assist in the defense. While we hope that there may never be a war between the United States and any other country, it may be true that the surest way to prevent war is to be able to defend ourselves.

Ships from our Atlantic coast and the Gulf of Mexico will save much also in a voyage to the western countries of South America, and to countries across the Pacific. The distance to some ports on the western coast of South America will be reduced by five or six thousand miles and the distances to Asiatic ports by several thousand miles. New York City will be nearer China and Japan than the cities of Great Britain now are.



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**City of Panama**

The capital of the republic, looking from the fort toward the cathedral

The country of Panama is about as large as the state of New York. It is mostly mountainous, but the valleys are very fertile. Only a small amount of land is cultivated, but the country is capable of producing enough

to support a dense population. Orange and lemon trees flourish, and cocoanuts are raised in great abundance.

The inhabitants consist of whites, Indians, negroes, and people of mixed descent. Many negroes were brought by the French in the first attempt to build the canal, and some of these have remained. The eastern part of the country is the home of the San Blas In-

dians, who have never submitted to the control of white people.

The city of Colon, near the northern end of the canal, was named from the Spanish name of Columbus in commemoration of the fact that he discovered the Gulf of Darien. Panama, near the southern extremity, is a larger city.

It is situated on the Bay of Panama and has one of the best harbors in the world. Both these cities must increase greatly in size and importance after the canal is completed.



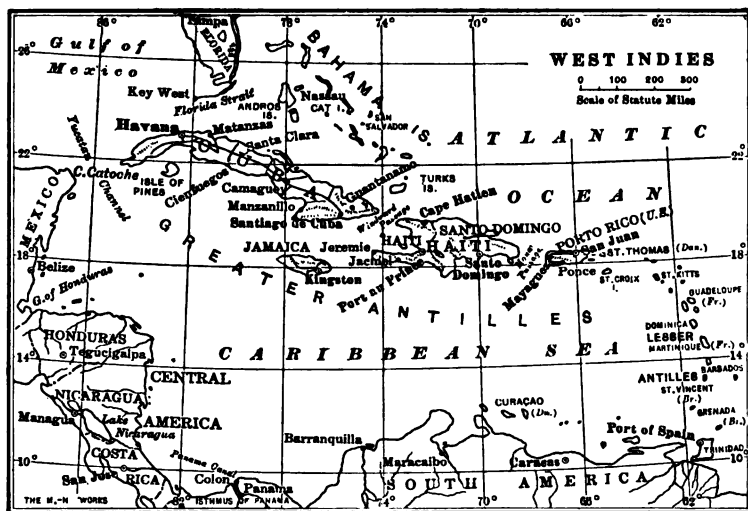
Palace of the Governor, Panama

They will become important centers for the exchange of goods by the ships of many nations. They will also be important as coaling stations for steamers on long voyages.

1. About how many miles long is the country of Panama?
2. About how many degrees north of the equator is it?
3. Is the canal farther east or farther west than New York City?
4. In what direction from Colon is the Gulf of Darien?
5. Between what large islands of the West Indies will ships probably pass on their way to the canal?
6. In what ways will the canal be an advantage to the people of Panama?
7. Explain the operation of locks in a canal.

**REVIEW**

1. Compare the physical features of Mexico with those of the United States.
2. Describe the climate of Mexico.
3. Give a brief statement of the history of Mexico.
4. What are the present classes of people?
5. Describe the condition of the Mexican peons.
6. Describe Mexican houses.
7. Tell about agricultural products of Mexico at different latitudes.
8. Tell about cattle herding.
9. Describe the agave plant.
10. How is pulque prepared?
11. How is sisal hemp obtained?
12. For what purpose is it used?
13. Tell about mining by the native Indians of Mexico.
14. Describe the Mexican process of obtaining silver.
15. How has sulphur been obtained from Mt. Popocatepetl?
16. How is it now obtained?
17. What are the principal seaports of Mexico?
18. Why have foreign capitalists invested much money in Mexico?
19. Describe the physical features of Central America.
20. Tell about the climate of Central America.
21. Tell about the inhabitants of Central America.
22. Why has the government been bad in the countries of Central America?
23. What is the International Bureau of American Republics?
24. Name the leading agricultural products of Central America.
25. What trees grow in the forests?
26. Describe the country of Guatemala.
27. Describe the city of Guatemala.
28. Name some of the wild animals of Central America.
29. Why is there need of a canal, as well as a railroad, across the Isthmus of Panama?
30. Why did not the French company succeed in building a canal?
31. What is the Canal Zone?
32. How have conditions been made healthful in the Canal Zone?
33. State some of the advantages that will come from the completion of the canal.
34. Describe the country of Panama.
35. Tell about the inhabitants.
36. Tell about the cities of Colon and Panama.



## 12. Cuba

Southeast of the United States, extending from a point not far from Florida to the coast of South America, is a chain of islands which separate the Gulf of Mexico and the Caribbean Sea from the Atlantic Ocean. Soundings in the sea about these islands have proved that they are really the tops of a system of mountains rising from the ocean bed. If the ocean were not so deep, this mountain chain would form a second isthmus connecting North America and South America.

Columbus discovered some of these islands and called them the West Indies because he thought that he had sailed so far around the world as to be near the East Indies, which are off the coast of Asia. The islands still retain the name that Columbus gave them.

They are regarded as consisting of three groups.

The Greater Antilles consist of Cuba, Porto Rico, Haiti, and Jamaica. North of these is a group called the Bahama Islands, and the small islands that extend in a chain from Porto Rico southeast to the coast of South America are called the Lesser Antilles.

In the nature of their soil and climate the islands of the West Indies are, for the most part, similar to one another. Their soil, like that of many other islands, has been produced mainly by the decay of lava from volcanoes. It is very fertile. Coral reefs like

those near Florida have been formed along the coasts. All the islands have an abundance of rainfall. Their climate is warm, but not so hot as to prevent settlement by white people.



**Native Cubans and their Home, Havana  
Province**

Cuba contains about one half of all the territory

of the West Indies. It is over seven hundred miles long and from twenty-five to one hundred miles wide. Its area is nearly as great as that of Pennsylvania.

For several centuries this island belonged to Spain. The Spaniards made slaves of the natives and brought, in addition, a large number of negro slaves to work upon the plantations. At a later date slavery was abol-

ished. Cuba has now a mixed population, including descendants of the original natives, negroes, descendants of Spanish settlers, and some Americans.

Throughout their history most of the people have been very poor and ignorant. It was not the purpose of the Spanish rulers to educate the people and improve their condition, but rather to enrich themselves.



**A Cuban Planter's Home**

On account of an oppressive government the people of Cuba have several times risen in rebellion against Spain. The rebellion of 1898 led to such prolonged and cruel warfare that the United States intervened and compelled Spain to relinquish her claims to the island.

After restoring order and making great improvements in Cuba, our Government granted the people independence on condition that they should govern themselves peacefully. Disorders afterward caused the United States to take control again for a period of two years.

Many of the inhabitants would be glad to have Cuba permanently joined to the United States, but we have promised independence, and we shall keep the promise as long as the Cubans are able to maintain peace and good order. It is understood, however, among the nations of the world that we are responsible for the welfare of Cuba and for the preservation of peaceful government, because we have taken the island away from the control of Spain.

Many of the Spanish-American peoples have suspected that the United States would strive, at some time, to take possession of as much territory as possible in North America and South America. Our treatment of the Cubans, for whom we have freely expended millions of dollars and sacrificed some human lives, has done much to assure these peoples that we are not seeking possession of their territory, but rather to aid them in becoming peaceful and prosperous neighbors.

Cuba is one of the most attractive islands in the world. It has been called the "Pearl of the Antilles" and the "Gem of the Sea." Its soil is exceedingly rich and well watered. It has a more comfortable climate than most tropical countries. Frost never visits it, and yet in most parts the temperature is not excessively high. It is also in a most favorable situation for the marketing of its products.

A range of hills and mountains forms the "backbone" of the island. Most of the highest mountains are covered with forests of large and valuable timber. In the forests are numerous deer, wild swine, wild turkeys, and other game.

The greater part of the surface, however, consists of rolling plains and low hills. The conditions of soil and climate are so favorable that almost any kind of crops can be produced upon these lands; but the most valuable crops have been tobacco, sugar, and fruit.

Cuban tobacco is everywhere known to be of the finest quality. The greater part of it is produced on



Unloading Sugar Cane

the western end of the island, in the provinces of Pina del Rio and Havana. Since the close of the war, many Americans have engaged in the Cuban tobacco industry. The crop is so valuable that expense is not spared in protecting the plants and bringing them to maturity. Some planters cover their fields entirely with thin cloth, in order to keep the plants free from worms and insects.

A great amount of sugar is produced on large plantations in Cuba, but the profit from this industry is not

so great as it was before the discovery of the process of manufacturing sugar from beets.

Cattle raising is an important industry in the eastern part of the island. The growing of early vegetables and fruits for northern markets is increasing.

The natural richness of the island renders it capable of supporting many times its present population. When



A Street in Havana

the Panama Canal is completed, Cuba will be in the line of the route of vessels to and from the canal, and its conveniences for trade will be greatly increased.

Havana, the chief city, has a large and very fine harbor. There are other harbors at Cienfuegos, Matanzas, Manzanillo, Santiago de Cuba, and Guantanamo.

Cuba is fast becoming an American island, in reality if not in name. Great improvements throughout the island in respect to health, education, and industry have been largely due to American effort. Americans are

investing many millions of dollars in Cuban enterprises, and relations between the island and the mainland are becoming constantly closer.

American energy is reducing the distance between the two countries by a most wonderful railroad, consisting of long bridges built up from the shallow bed of the ocean and connecting the long chain of Florida



Courtesy of Technical World Magazine

**The first Train over the Florida-Cuba Railroad**

keys. Trains loaded with Cuban products will be taken on ferryboats from Havana to Key West and then forwarded by this railroad to the mainland.

1. About how many times the length of Cuba is it across the United States from east to west?
2. Why do most of the rivers of Cuba flow either north or south?
3. About how long is the voyage from Havana to New York City?
4. At Santiago de Cuba the Spanish fleet was destroyed by the Americans in the war with Spain. In what part of the island is that city?
5. There is a valuable bed of asphalt near Santa Clara. Locate Santa Clara.

6. Puerto Principe is the center of a great herding district. In what part of Cuba is it?

7. A great amount of sugar is sent to the United States from Matanzas. About how far from Havana is it?

8. On what part of the coast is Cienfuegos?

9. Near what part of Cuba is the Isle of Pines?

10. Make a map of Cuba, showing the principal cities.

### 13. Porto Rico

At the close of the war with Spain, in the year 1898, Porto Rico was ceded to the United States. It is about as large as the state of Connecticut and only one twelfth as large as Cuba, but since it is our own territory, we are not less interested in it than in Cuba.

The people of Porto Rico are also of mixed races, but the proportion of white people is far greater than in Cuba. The people have not been oppressed by the ruling class so much as in other Spanish-American countries. They have been more contented, less inclined to stir up rebellion, and hence more prosperous.

The island is wonderfully fertile. Its surface consists of hills and valleys with hundreds of streams among them. There are no rocky hills or swamps or other waste places. All the land is covered with vegetation. For this reason it has greater importance as an agricultural territory than its size would indicate.

The coffee plant flourishes on the fertile hillsides, and before the island came under the control of the United States the production of coffee was its leading industry. Soon after the change of government, a violent hurricane swept over the island and brought destruction to a great number of coffee plantations. The same change of government had the effect of interfering with

the European market of coffee from Porto Rico, and the difficulty of building up new markets has given the planters a long period of depression. These misfortunes have had an unfavorable effect upon the feeling of the people toward the American Government and the American people. The troubles came through no fault of ours; but many people are ready to believe that their prosperity or adversity depends upon the Government.



**A Coffee Plantation in Porto Rico**

Orange trees and grape-fruit trees thrive in Porto Rico. There is no troublesome frost, and irrigation is unnecessary. Until recently there have been but few cultivated groves of these fruits upon the island, but many trees that have sprung up by the roadsides yield fruit as sweet as the groves of Florida. Americans are now planting many thousands of trees of improved varieties, and we may soon expect to see the fruits of Porto Rico in all our eastern markets.

Fine tobacco is grown in the valleys of the upland.

In the low river valleys and along the coast there are large sugar plantations and pineapple plantations.

The coast is generally fringed with groves of coconut palms. These trees are of great value to the inhabitants of tropical countries. There is no particular harvest season for the fruit. Blossoms, green fruit



Cocoanut Palms

in all stages, and ripening fruit are to be seen on the same tree at any time. When the ripe fruit falls, it is covered with a green husk that is removed before the fruit is sent to market.

American management in Porto Rico has brought about important changes, some of which the inhabitants are slow to appreciate. The people have a better government and far greater freedom than ever before. The Spaniards maintained a military form of govern-

ment, with soldiers everywhere in control. Now there are but few soldiers and these are mostly natives. The people of the island had heard so much about "American freedom" that when their country became American soil, they expected to obtain at once a form of government like that of our states or territories. Such people need to



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**A Government Road near San Juan**

learn, however, that the ability to govern themselves must come gradually. If they had been left entirely to themselves, they would probably have fallen into a state of disorder and revolution.

For self-government, education is necessary, but at the time when we undertook the management of Porto Rico not more than fifteen per cent of the people could read and write. There was only one public school building on the whole island. Some children, whose

parents could afford it, received a little private instruction at the homes of their teachers, but for the majority no education was provided. Since that time hundreds of new schoolhouses have been built. Many Americans have been employed to teach in the schools, and many native teachers have been prepared under American training.



Governor's Palace, San Juan

The building of better roads has also been a great advantage. In these tropical islands, where the land is composed of finely pulverized soil and is washed by frequent rains, it is impossible to maintain good roads without large expense. Most of the traveling in Porto Rico has been on foot, and most of the freight has been carried on the backs of horses and donkeys. The natives have been too poor to build good roads. The government is expending large sums in connecting different parts of the island by railroads and highways.

American physicians have rendered the people of Porto Rico a special service for which they should be grateful. It was found that the people were very generally afflicted with a disease of the blood that was depriving them of health and strength. Our physicians have succeeded in finding a cure for this disease and so have relieved thousands of their suffering.

1. San Juan is the capital city of Porto Rico. In what part of the island is it?
2. Ponce is next to San Juan in size. On what part of the coast is it?
3. Mayaguez is an important town. In what part of Porto Rico is it?
4. How far is it from the terminus of the railroad at Key West, across Florida Strait to Havana?
5. About how far is it from San Juan to Key West?
6. Which is nearer the Panama Canal, the Windward Passage or the Mona Passage?
7. About how long is the island of Porto Rico?
8. Make an outline map of the four large islands called the Greater Antilles.

#### 14. Other Islands of the West Indies

The island that was originally called Haiṭi, and that is now commonly known by that name, is divided into the two countries of Haiti and Santo Domingo. The name of Haiti, which means high island, comes from its mountainous nature. This island is about as large as the state of New York. It has very productive soil and great natural beauty. While the climate is tropical in the lower sections, on the higher lands it is temperate. The mountains are covered with forests of valuable timber, and fruit and flowers are abundant.

Most of the inhabitants are negroes who are descendants of the former slaves. The land once belonged to

the French, but in a rebellion it became independent. It may seem strange that such a small number of ignorant people should be able to fight successfully against a powerful nation of Europe, but the inhabitants of such a country have a great advantage in their surroundings. Scattered bands of their fighting men can easily conceal themselves among the mountains, where it is difficult for a foreign army to conquer them.

At a later time the Spaniards gained possession of the eastern part of the island, but they, too, were finally driven out.

As a result of these events there are now the two independent republics. The inhabitants of Santo Domingo were so long subject to the Spaniards that they became accustomed to use the Spanish language. For a similar reason French is the language of Haiti.

The history of these two republics is a striking illustration of the failure of an attempt at popular government in the case of ignorant people. Both countries have natural advantages so great that their people might long ago have gained education and wealth if their governments had encouraged and protected them.

In the country of Haiti there has been revolution after revolution. Where warfare is so frequent, property is in constant danger of destruction. Farmers in the country districts are compelled to pay heavy taxes and have but little protection against thieves, and even murderers; hence but few farms are cultivated. Sugar cane would thrive in such a soil and climate, but there is so little industry among the people that even sugar is imported into the island. It is said that some of the people in the in-

terior still practice certain barbarous customs that are common in Central Africa.

Affairs have been so badly managed in Santo Domingo that the United States Government has been obliged to interfere. Robberies and murders have been very frequent. Europeans who have obtained the right to do business in the country have often been wronged, and many men have been obliged to leave the island for safety.



Square in Port au Prince, Haiti

Every civilized nation undertakes to protect its citizens, in whatever part of the world they may be. European governments would have the right to obtain satisfaction from Santo Domingo for the wrongs done to their people, and might even take possession of the country if necessary. But we have a doctrine, known as the Monroe Doctrine, according to which European countries must not be permitted to take possession of land in the Western Hemisphere. This doctrine places upon us a great responsibility in regard to such a

country as Santo Domingo. If foreign countries are not to be permitted to enforce the collection of debts and to obtain satisfaction for wrongs, we ourselves must see to it that the rights of their people are protected.



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**Cathedral, Santo Domingo**

**The natives claim that here rest the bones of Columbus.**

In the island of Jamaica, which belongs to Great Britain, the troubles of the neighboring island do not exist. There, too, the inhabitants are mostly negroes and mulattoes, but government by British methods secures good order and prosperity.

Jamaica produces large quantities of early vegetables, fruits, and sugar cane. From that island various spices are obtained, including nutmegs, allspice, cinnamon, and ginger. Nutmegs are kernels of the fruit of the nutmeg tree. Allspice is from the seeds of the berries of the pimento tree. Cinnamon is the bark of the cinnamon tree. Ginger is the dried root of the ginger plant.

North of Cuba and Haiti are the Bahama Islands, which belong to Great Britain. When Columbus discovered the New World, he landed first on San Salvador, one of the Bahamas. On some of the largest of these islands the people, who are mostly negroes, raise oranges, pineapples, cocoanuts, and early vegetables.



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**Native Family and Hut, Jamaica**

The waters about the Bahamas are the best sponge fishing ground in the world. Sponges, as they are found in the sea, are composed of a great number of minute animal organisms grown together. The pores extend through all parts of the mass to admit sea water, which brings a supply of nourishment. Sponge fishermen tear off sponges from the bottom by dragging hooks or by diving. After the fleshy portion becomes softened it is removed, and the useful substance, composed of horny skeletons, remains. Key West, the most southerly town of Florida, is a noted market for Bahama sponges.

New Providence Island is the most important of the Bahamas, and Nassau, its capital, is a noted winter resort.

Many of the Lesser Antilles belong to Great Britain, and some to other countries of Europe. The British island of Trinidad is the largest. On this island is a valuable lake of asphalt, a substance that resembles pitch. This



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**Sponges on the Dock, Nassau**

is used for paving streets. It melts when heated, and when mixed with sand and cooled becomes very hard.

There are still frequent eruptions from some of these small volcanic islands. In 1902 volcanoes on the islands of Martinique and St. Vincent became active and destroyed thousands of people.

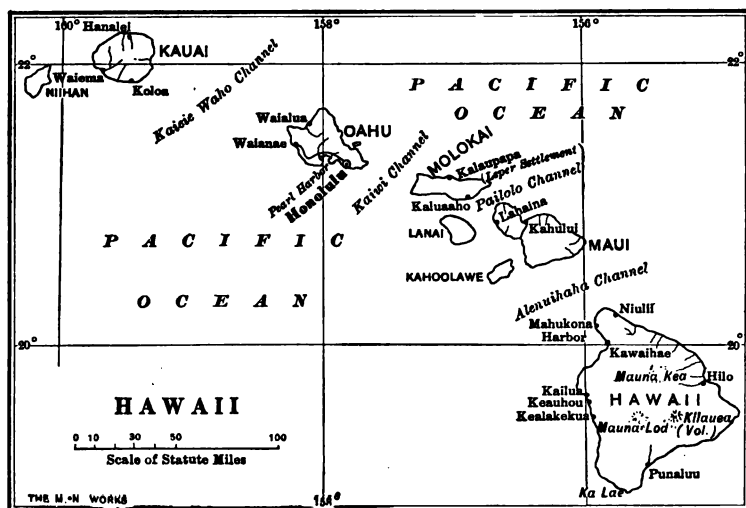
Out in the Atlantic, about six hundred miles east of the state of South Carolina, is a group of small islands called the Bermuda Islands. They belong to Great Britain. The inhabitants, who are mostly negroes, are

engaged principally in raising vegetables and lilies for the American market. Early Bermuda onions and potatoes have a wide reputation in our eastern cities. Lilies are grown chiefly for the bulbs from which florists produce blossoms for the Easter season.



**A Bermuda Lily Field**

1. What are the capital cities of Haiti and Santo Domingo?
2. On which coast of Jamaica is Kingston, its principal city?
3. About how far apart are the islands of Martinique and St. Vincent?
4. How has the production of beet sugar rendered the Lesser Antilles less prosperous than they were once?
5. What is the name of the passage between Haiti and Cuba?
6. Name the passage between Santo Domingo and Porto Rico.
7. What effect will the opening of the Panama Canal have upon the use of these passages?
8. Find some city of the United States that is in about the same latitude as the Bermuda Islands.



### 15. The Hawaiian Islands

There are two groups of islands far away in the Pacific Ocean that belong to the United States and are in closer relations with us than many nearer countries.

Over two thousand miles from our western coast is the group known as the Hawaiian Islands. There are twelve of these, but only seven are inhabited. Hawaii, the largest island, from which the group receives its name, is somewhat smaller than Connecticut.

These islands, like the West Indies, are the tops of volcanic mountains. If it were possible to look down into the ocean depths, we should see a chain of mountains, many of which do not reach the surface of the water. Those that rise above the surface and form the islands would appear higher than any mountains that we can see upon the land.

These ocean mountains, as they might be termed, have been mostly built up by lava from volcanoes. The peaks at present upon the islands are volcanoes, most of which have ceased to be active; but Mt. Kilauea, which rises more than four thousand feet above sea level, is one of the most noted of the world's active volcanoes.



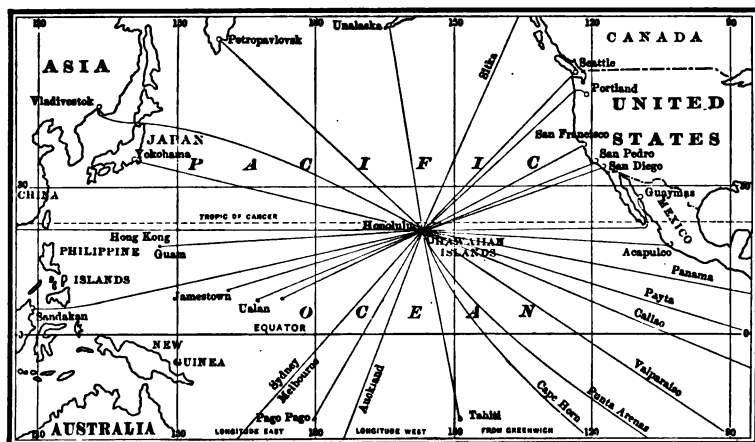
**Crater of Mt. Kilauea**

The Hawaiian Islands were discovered by an English sailor, Captain Cook, in the year 1778. The natives, who were dark-skinned and resembled those of other islands of the Pacific, were found to be peaceful and intelligent. American missionaries have labored among them for many years and have done much to impart to them the benefits of civilized life. The descendants of these natives form only a small part of the present population, which includes many Chinese, Japanese, and Portuguese, besides Englishmen and Americans.

The native people were once ruled by chiefs, or

kings and queens, but in 1893, after large numbers of people from other lands had been added to the population, a republic was formed, and in 1898 this republic was annexed to the United States.

There was no unpleasantness in this. A majority of the inhabitants had long desired to be annexed, but



"The Crossroads of the Pacific"

our Government had hesitated to assume charge of islands so far away. When the Spanish war broke out, however, and the Philippine Islands, much farther west, came into the hands of the American people, there was no more delay. If we were to send our ships so many thousand miles across the Pacific to the Philippines, we needed a stopping place of our own upon the way.

Many ships that cross from the western ports of North America to Asia and Australia call at the Hawaiian Islands, and for this reason the group is sometimes called the "Crossroads of the Pacific."

If war should ever be waged against the United States on our western coast or on the Pacific, the islands would be of great value to us. Warships cannot carry enough coal to last for a voyage to distant parts of the earth and back again. The nations that have fleets of warships strive to own islands here and there for coaling stations, where their ships may obtain supplies.



United States Naval Station, Honolulu

By establishing a coaling station at the Hawaiian Islands and fortifying it against possible enemies, the United States has added greatly to its power upon the Pacific. It is important not only to be able to supply our own ships with coal, but also to prevent other nations from taking possession of the islands and thus holding an advantage against us.

When the Panama Canal is completed, these islands will be of much greater importance than they are at present, since nearly all of the steamships that pass through the canal will need to stop at Hawaii for coal.

The climate of the Hawaiian Islands is remarkably

agreeable and uniform. Although they are far to the south, they have no sweltering heat. Prevailing winds, blowing mostly from the northeast, keep the temperature comfortable throughout the year. The summers are cooler than those of New England and there is no freezing weather in winter. For the greater part of



Judiciary Building, Honolulu

the year the woods and fields are filled with the music of singing birds and the air is laden with the fragrance of blossoms.

The most important industry is the production of cane sugar. The soil, which consists mostly of decayed lava, is exceedingly fertile and is well adapted to the growth of this crop. Many Chinese, Japanese, and Portuguese have gone to Hawaii to work upon the sugar plantations.

In such soil and such a climate almost any crop might be grown, but so much of the land is used for the production of sugar that supplies of meat, butter, eggs, and even some fruits, are imported from the United States.

On account of the delightful climate and other attractions, many American and foreign travelers visit these islands in the winter. Various flowering plants are found there that are not known in other parts of the world. The natives also are very interesting. They do not generally enjoy regular labor, but prefer a life of



Native Hawaiians eating Poi

ease and freedom. They are accustomed to live in huts covered with grasses and cocoanut leaves. A common article of their food is prepared from a vegetable root called taro. After drying this root they pound it into flour and make a kind of bread called poi. Their diet is varied with fish, breadfruit, cocoanuts, and bananas. They delight in bathing in the sea and riding on the crests of waves in their surf boats.

Honolulu, the principal city of the islands, is very beautiful. It has been called the "Paradise of the Pacific." Parts of it are like a park or garden filled

with tropical trees and plants and flowers. It contains interesting public buildings that were once the palaces of native rulers. Honolulu is on the island of Oahu.



Honolulu

1. The combined area of the seven largest Hawaiian Islands is 6544 square miles. Find how this area compares with that of the state of Massachusetts.
2. Can you give the reason why the windward slopes of the mountains on these islands are covered with forests, while the leeward slopes are drier and mostly barren?
3. If a warship carries eight hundred tons of coal and burns sixty tons a day, how many days can such a ship sail without taking on another supply?
4. In what direction from the Panama Canal is Honolulu?
5. On which of the islands is the volcano of Kilauea?
6. About how far from Honolulu is Pearl Harbor, in which the United States has a coaling station?
7. Tutuila, one of the Samoan Islands, about two thousand miles southwest of the Hawaiian Islands, belongs to the United States. Of what value can it be to this country?
8. Guam, the largest of the Ladrone Islands, also belongs to the United States. In what direction is it from Hawaii?

### 16. The Philippine Islands

The Philippine Islands are situated several thousand miles across the Pacific, near the continent of Asia. There are a great many islands in the Philippine group, but most of them are very small. Some are mere rocks projecting above the water.

Although nearly seventeen hundred of these islands have received names, only about twenty-five are of sufficient size to be of much account. Their entire area is nearly twice as great as that of the



**Mayon, an active Volcano**

New England States. The two largest islands are Luzon and Mindanao. Luzon is a little larger than Pennsylvania, and Mindanao is somewhat smaller.

The Philippines were discovered by the Spanish explorer Magellan in 1521, while on his voyage around the world, and for nearly four centuries they were under the control of Spain. At the beginning of our war with Spain, when Admiral Dewey destroyed the fleet of Spanish ships in Manila Bay, the inhabitants of these islands were in rebellion against their Spanish rulers. By a treaty made at the close of the war the whole group came into the possession of the United States.



of California it is often warmer than it ever is in the Philippines. The difficulty is that the warm weather in the islands continues throughout the year.

White people who are accustomed to cold winters may miss the tonic effect of the change from summer to winter, and may fail in health unless they occasionally spend some time either in the mountains of the interior of the islands or in some cooler country.

In the winter season the climate is comparatively dry, but in summer there are heavy rains and sometimes violent storms.



Church Tower at Laoag

Among the mountains are numerous volcanoes, some of which are from eight thousand to ten thousand feet high, and volcanic eruptions and earthquakes are common.

On account of the fertile soil and an abundance of rain those parts of the islands that are not under cultivation are covered with dense forests. Many wild animals are found there, including buffaloes, swine, deer, serpents, and crocodiles.

But our chief interest is in the people, of whom there are about eight million. Over eighty tribal names are found in the islands, and nearly forty different languages or dialects are spoken.

Most of the people are at least partially civilized.

The higher classes are properly called Filipinos, but we often speak of them as the "Little Brown People."

Long ago, through the influence of Roman Catholic missionaries, the Filipinos adopted the Christian religion. Nearly two thousand churches and cathedrals, scattered



Moros—the Sultan and Attendants

over the islands, have been built and supported by these people.

The ancestors of the Filipinos were Malay tribes who came from the mainland of Asia.

In remote

parts of some of the islands there are small numbers of so-called Negritos. Their name, which means small negroes, comes from their small size. It is believed that these are the descendants of the early inhabitants.

The small Sulu Islands, in the southern part of the group, and the eastern portion of Mindanao are inhabited by the Moros. They also are of Malay origin and were probably the latest of the Malay tribes to get a footing upon the islands. But they are widely different from the tribes that came earlier. Instead of Christianity they adopted the Mohammedan religion. To them nothing is more glorious than fighting, and they have a special desire to slay Christian people. Our soldiers

have had great difficulty in overcoming them and keeping them in order.

In the cities and towns of the Philippines there are some Spaniards and many who have a mixture of Spanish blood. The Filipinos mostly live in villages, in houses built of bamboo and thatched with grass. Many of their homes are elevated above the ground and are reached by ladders. Beneath the elevated living room domestic animals are often accommodated. In some cases the elevation is necessary to escape a flood from the overflowing of a river in a time of heavy rain. Many families sit upon the floor to eat their meals, but others have tables and chairs made of bamboo sticks fastened together. But the people are not so destitute and uncomfortable as might be inferred from this description. We should remember that in a warm climate life is mostly out of doors, and that the people give less attention than we do to inside comforts.



Filipinos

As soon as rebellions were overcome and peace and good order were established, the American Government began the work of improvement. We Americans have always believed that education is necessary for prosperity. Hundreds of schools have been established and many American teachers have gone to the islands. Thousands of teachers are instructing the children in reading, writing, and speaking English. The children are eager to learn the language of the Americans.



**Filipino Houses near Manila**

It is expected that after a few years English will be commonly spoken in the islands. While speaking so many different dialects, these people have not been able to understand one another, but with English as a common national language it is hoped that they will become united as one people.

Another important improvement that our Government has made is in the general conditions of living. People who are ignorant of the cause of disease may live in the midst of dangerous conditions without realiz-

ing it. They are often stricken with some terrible plague, such as smallpox or cholera. Our Government has largely removed the sources of these diseases by cleaning the streets of the cities, by constructing water works and sewers, and by requiring the people to make their surroundings more healthful.

The form of government employed by the United States in the management of the Philippines is different from that which is customary in most other countries. The nations usually appoint officials from the home country to exercise authority over such a people, and give the native inhabitants but little part in their government. On account of the spirit of liberty that prevails among



A Government Building in Manila

the American people, we are giving the Filipinos a large share in the management of their public affairs. They have a national assembly of seventy members, elected by the people, and this assembly coöperates with officials from the United States. It is our desire to teach the native people to become self-reliant and self-governing. Whenever they become able to conduct their own government successfully, they will probably be granted the privilege of doing so.

While our chief interest in the Philippines is in the welfare of the people who have come under our charge, we are also interested in the natural wealth of the islands. Many nations have valued their colonies chiefly because of the wealth that could be obtained from them to enrich the mother countries. It should be a satisfaction to us to know that the American people are dis-



A Philippine Cart

posed to hold the resources of their distant possessions for the benefit of the inhabitants and for future settlers.

The land of the Philippines is exceedingly fertile, and a vast amount of it is unoccupied. Outside the cities the people live mostly in villages, and cultivate only a small amount of land in the vicinity of their homes.

The common diet of the people consists of fish and rice. They have been accustomed to cultivate their rice fields with a clumsy wooden plow drawn by a kind of buffalo called the carabao. But this animal is not very useful, as it is his nature to wallow in mud and water, and he soon becomes heated when at work in the fields.

Americans have taken to the islands horses and mules and improved American machinery. With these, rice and other crops can be raised by the modern methods employed in our Southern States.

Such crops as sugar, tobacco, and coffee flourish in the islands, but at present the most profitable agricultural product is Manila hemp. It consists of long, tough fibers



A Philippine Sugar Mill

taken from a plant called abacá, which somewhat resembles the banana plant and really belongs to the same family. This grows to a height of from eight to fifteen feet. The interior of the stalk consists of bands of fibers lying one upon another. The plant is cut down and the fibers are torn off in strips. The soft matter among the fibers is removed by drawing the strips between a knife blade and a block of wood. The fibers are then dried on bamboo poles and tied in bundles for the market.

Over twenty million dollars worth of Manila hemp is produced in the islands every year, and more than one half of it is brought to the United States for the manufacture of ropes. Manila rope is even more valuable than that made from the maguey fiber of Yucatan in Mexico. Machines have now been invented for clean-

ing the fibers of abacá more rapidly than by the crude native method, and these will render the industry more profitable.

The forests of the Philippines are among the most remarkable and valuable in the world. They cover nearly three fourths of all the territory and contain several hundred varieties of trees, many of which yield the



**Native stripping Hemp**

choicest kinds of lumber. Nowhere else in the world is there so great a variety of valuable hardwood trees.

The value of the timber in the Philippine forests has been estimated at thousands of millions of dollars. At

present, however, nearly all of it goes to waste by natural decay, without being of any service to man.

The Filipinos manage to drag a few trees from the forests by the use of the carabao, but the work is so slow and difficult that they usually prefer to raise the light bamboo and make it serve their principal wants.

It is a surprising fact that lumber has been shipped from our northwestern states to the Philippines, because the cost of shipment has been less than



Sawing Lumber

that of obtaining logs from Philippine forests by such difficult methods as the natives have been accustomed to employ. Many of the native hardwood trees are so heavy that they will sink in water and therefore cannot be floated down the streams according to the methods of other countries.

The development of the wealth of these wonderful forests will require the building of railroads on which logs and lumber may be conveyed to the sea. After these have been built, the industry of lumbering will become very important, and the products will be sent to all parts of the world.

The chief city of the Philippines is Manila, on Manila

Bay, in the island of Luzon. As a result of improvements made by the Americans, it has become one of the most attractive cities in the far East and one of the most healthful cities in the world. A portion of Manila consists of an old walled city, which is a good example of the fortified cities that were common several cen-



**The Pasig River at Manila**

turies ago. Two massive breakwaters have been extended into Manila Bay for three miles, and within these the largest ocean ships may ride at anchor or load at the wharves in safety. It is expected that Manila will become a natural trading center of the East. It is on the direct line of the route for ships from Europe to China and Japan.

Two other cities of considerable size are Iloilo, on the island of Panay, and Cebu, on the island of Cebu. There are many smaller towns, most of which are sea-ports. Steamboats plying among the islands call at more than sixty different ports.

1. About how many degrees farther south is the city of Manila than the southern extremity of Florida?
2. Compare the latitude and longitude of these islands with those of the Hawaiian Islands.
3. The area of the Philippines is about how many times that of the Hawaiian Islands?
4. Find about how far it is from the northern extremity of the Philippines to their southern extremity.
5. What long island is in the eastern part of the group?
6. Name several large islands between Luzon and Mindanao.
7. What large island of the East Indies is southwest of Mindanao?
8. If the forests of the Philippines cover nearly three fourths of their territory, about how many square miles do they cover?
9. Make a map, showing the largest of the Philippine Islands and the principal cities.



Manila, East from the Cathedral

REVIEW

1. Describe the islands southeast of the United States.
2. Why are they called the West Indies?
3. What is the nature of their soil?
4. How large is Cuba?
5. Tell about the inhabitants of Cuba.
6. Why is the United States responsible for maintaining good government in Cuba?
7. Give a description of Cuba.
8. Tell about the tobacco crop.
9. Tell about other industries.
10. How will the opening of the Panama Canal affect Cuba?
11. Name the seaports of Cuba.
12. Tell how Americans are becoming interested in Cuba.

13. How are railway cars to pass from Cuba to the United States?
14. How large is Porto Rico?
15. Describe the people of Porto Rico.
16. Describe the surface of the island.
17. Tell about the coffee industry.
18. Tell about the orange industry.
19. Tell about the cocoanut industry.
20. Explain the government of Porto Rico.
21. How have opportunities for education been improved under American management?



**Cocoanut Rafts**

22. Why are roads and railroads much needed in Porto Rico?
23. How has the health of the people been improved?
24. Describe the island of Haiti.
25. Tell about the inhabitants.
26. Tell about the two republics of Haiti and Santo Domingo.
27. Tell about the present government of Haiti.
28. Why has the United States Government interfered in the management of Santo Domingo?
29. What does the Monroe Doctrine mean?
30. State the condition of the people of Jamaica.
31. What are some of the products of Jamaica?
32. Describe the Bahama Islands.
33. Describe the industry of sponge fishing.
34. Describe the Lesser Antilles.
35. What substance is obtained on the island of Trinidad?
36. Tell about the Bermuda Islands.
37. Describe the Hawaiian Islands.
38. Tell about the discovery of these islands.
39. Who are the present inhabitants?

40. Tell how the islands became a territory of the United States.
41. How did the war with Spain lead to the annexation of these islands?
42. Why would the islands be of great value to us in time of war?
43. How will the Panama Canal increase their importance?
44. What is the most important industry of the people?
45. Tell about the customs of the natives.
46. Describe Honolulu.
47. Where are the Philippine Islands?
48. How many islands are there in the group?
49. How large are the largest two?
50. Give a brief history of the Philippines.
51. Tell about their climate.
52. What are some of the wild animals of the islands?
53. How many tribes of people are there and how many languages are spoken?
54. Who are the Filipinos?
55. What is their religion?
56. Who are the Negritos?
57. Tell about the Moros.
58. State some of the customs of the Filipinos.
59. What improvements in education have the Americans made?
60. What improvements have been made in the conditions of living?
61. How does the form of government in the Philippines differ from that in colonies of European countries?
62. Describe the native methods of cultivating crops.
63. Explain how Manila hemp is produced.
64. How much of this hemp is produced, and what becomes of it?
65. Describe the forests of the Philippines.
66. Why has the United States sent lumber to the Philippines?
67. Describe the city of Manila.



Filipinos making Rope

### 17. South America

We are accustomed to think of South America as a continent of small importance in comparison with North America. This is partly because South America has been settled by white people much more slowly than our own country, and partly because but little business or commerce is carried on between the two continents.

For purposes of trade the greater part of South America is as near to the markets of Europe as to the eastern ports of the United States. From a glance at the map we can see that South America is much farther east than North America is, and that it is as convenient for ships from the South American coast to proceed to Europe as to go to New York City. The cities of the Old World, too, furnish larger markets for the products of South America than can be found in the United States. When the Panama Canal is completed, it is probable that our trade with South America, particularly with the western part, will be greatly increased.

The great southern continent of the Western Hemisphere is nearly three fourths as large as North America. It resembles North America in the general nature of its physical features. It contains lofty mountain ranges, great rivers, broad plains, and vast forests.

South America may be regarded as belonging to the same system of land formation as North America. The Andes Mountains in the west are a continuation of the system of mountains that extends through western North America. In the east the highlands and low mountains of Brazil correspond to similar hills and

mountains in the eastern part of North America. In both continents the eastern highlands are the remains of mountain systems that have been worn down much more than those in the west. (See Relief Map, p. 138.)

Through the central part of South America there is a vast plain similar to that between the eastern and



In the Andes

western mountain systems of North America. It is believed that both these plains were once beneath the ocean and that they were gradually elevated or built up by sediment from rivers.

The most lofty mountains of the Western Hemisphere are in the Andes range along the western coast of South America. Among these are many active volcanoes, and violent earthquakes frequently occur in that mountainous region.

The unbroken coast line on the western side of the continent would indicate that that coast has been slowly

rising above the ocean. In further proof of this, sea-shells have been found high above the level of the ocean on the western slopes of the Andes.

When South America was discovered by Europeans, it was inhabited by tribes of Indians, many of whom



Ruins of an Inca Palace

were savages. In the forest regions, remote from the coast, there are still tribes among whom it is not safe for white people to travel. The Indians who lived near the coast and along the rivers were partly civilized when explorers first visited the country. They had learned to cultivate the soil and raise crops by very simple methods.

Some of the South American Indians, who dwelt in the mountainous regions of Bolivia, Peru, and Ecuador, were far advanced in civilization. The Incas were the most advanced of all. Such a mountainous region would not seem to be favorable for the home of a prosperous people, but the surroundings gave these Indians

certain advantages over tribes in other parts of the continent. In an elevated region like this the climate is temperate, and the history of the world indicates that the men of temperate climates have had the greatest energy and have made the greatest advancement. Another reason for the success of these Indians was that it was difficult for hostile lowland tribes to disturb them in their mountain homes, and since they were not troubled with wars, they could give their attention to peaceful occupations.

They increased their strength by uniting several tribes in an empire that extended along the Andes for two thousand miles. They were unable, however, to contend against the soldiers of Spain.

The Spaniards claimed nearly all of South America except Brazil. That part of the continent was taken by the Portuguese, who brought many negroes from Africa to work upon plantations along the coast.

Slavery has been abolished in all parts of South America, but the descendants of the slaves remain, and now there is everywhere a mixed population, including descendants of the Spanish settlers, Indians, negroes, and many of mixed races. Of late many Europeans have settled in Brazil, Argentina, and Chile.



After some three hundred years of Spanish rule the people rebelled, and independent republics were formed, like those of Mexico and Central America. About the same time the colonists of Brazil gained independence from Portugal and established a monarchy, which was afterward changed to a republic.

The people of these South American republics have

generally been so ignorant and of so many different races that wars have frequently broken out among them, but now they are giving promise of more settled and peaceful conditions.



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**Mixed Races in a Seaboard Town**  
Spanish, Indian, Chinese, Negro, etc.

3. Name all the countries of South America.
4. Which of the countries have no seacoast?
5. Between what countries is Lake Titicaca?

1. Name the three largest river systems of South America. (See map on page 136.)

2. Why are there fewer lakes and ponds in South America than in North America?

6. Mt. Cotopaxi is regarded as the most active volcano in the world. In what country is it?
7. Why do most of the white people live near the coast?
8. Why are there now more uncivilized Indians in South America than in North America?
9. Why is it difficult for a country, whose inhabitants are of different races, to have a strong government?
10. What would have been the probable effect upon the settlement of South America if there had been more good harbors along the coast?
11. Make a map of South America, showing the political divisions.

### 18. Zones

Before learning more about the countries of South America we should try to understand the reasons for differences in temperature and for winds and rainfall in the various parts of the continent. North America and South America together extend so far north and south across the cold regions and the warm regions of the earth that they furnish a convenient opportunity for the study of certain geographical principles that apply to all parts of the world.

The earth rotates once in twenty-four hours around its axis. The axis is an imaginary line passing through the center of the earth and through its surface at the North Pole and the South Pole.

A circle extending around the earth, midway between the poles, is called the equator. The map shows that the equator extends across the northern part of South America. Every twenty-four hours a person at the equator is carried in this great circle through a distance of about twenty-five thousand miles.

From the equator toward the poles the length of the parallels of latitude, or the circles in which one is

carried about by the earth's daily rotation, becomes less and less.

If we could reach the North Pole, as Peary has done, then we should not be carried about in a circle because the parallels of latitude at the poles are reduced to a mere point. If we should stand exactly at the North Pole, we should be turned completely around toward the left once in twenty-four hours. At the South Pole we should be turned around to the right.

If the axis of the earth were always perpendicular to the line from the earth to the sun, the sun at noon would always be directly overhead at the equator and the sunlight would always reach as far as both the poles. But this is not true. The axis has such a direction that in the yearly revolution of the earth about the sun the northern part of the earth is turned more toward the sun than the southern part during a portion of the year, while during the remainder the reverse is true.

At such times the points where the sun is overhead at noon are at some distance from the equator north or south, and the sunlight reaches farther than one pole and not so far as the other.

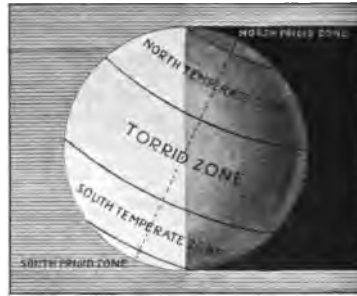
The circle, or parallel of latitude, which marks the northern boundary of those parts of the earth's surface where the sun at noon is directly overhead at certain times in the year, is called the Tropic of Cancer. The corresponding circle south of the equator, that marks the southern boundary of the same region, is called the Tropic of Capricorn. These names are the names of two constellations of stars in the northern and southern heavens.

The belt of the earth's surface lying between these two circles is called the Torrid Zone. It is also called the tropical regions, or the tropics.

There are 360 degrees in a circle, or around the earth on any circle. On that part of a circle between the equator and either pole there are one fourth of 360 degrees, or 90 degrees. From the equator to either of the tropical circles there are  $23\frac{1}{2}$  degrees, hence the entire torrid zone has a width of 47 degrees.



About June 21



About December 21

#### The Zones and the Seasons

When the sun is directly overhead at noon at the Tropic of Cancer,  $23\frac{1}{2}$  degrees north of the equator, the sunlight will reach  $23\frac{1}{2}$  degrees beyond the North Pole.

The circle, or parallel of latitude, that marks the boundary of sunlight at that time is called the Arctic Circle, and the circle about the South Pole, that marks the boundary of the region upon which the sun, at that time, does not shine at all is called the Antarctic Circle.

That part of the earth's surface which lies within the Arctic Circle is called the North Frigid Zone, and that part which lies within the Antarctic Circle is called the South Frigid Zone.

The part of the earth's surface that lies between the North Frigid Zone and the Torrid Zone is called the North Temperate Zone, and the part that lies between the Torrid Zone and the South Frigid Zone is called the South Temperate Zone.

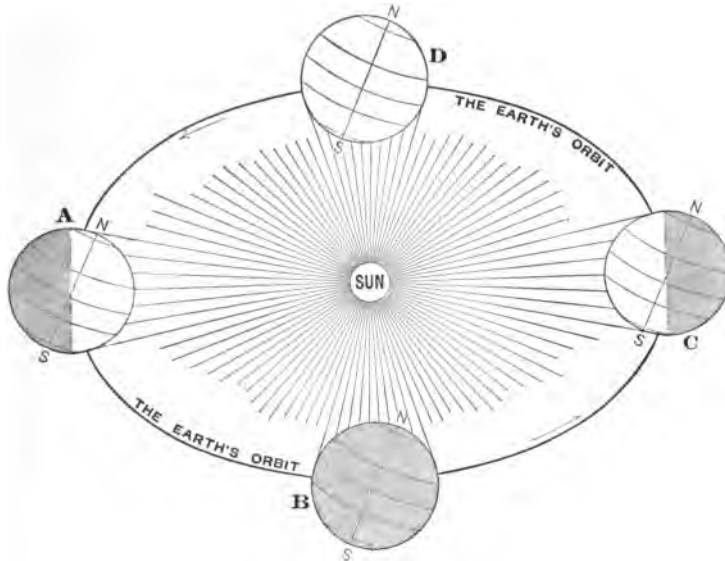
The number of degrees across the North Temperate Zone is found by subtracting from 90 degrees the width of the North Frigid Zone added to one half of the Torrid Zone. The width of the South Temperate Zone is, of course, the same as that of the North Temperate Zone.

1. What is the latitude of the equator?
2. What is the latitude of the North Pole?
3. How many degrees wide is the North Frigid Zone?
4. How many degrees wide is the North Temperate Zone?
5. Across what part of Mexico does the Tropic of Cancer pass?
6. Across what part of South America does the Tropic of Capricorn pass?
7. Across what countries of South America does the equator pass?
8. Which receives the more heat from the sun in the North Temperate Zone, land that slopes toward the north or land that slopes toward the south?
9. Which way should land in the South Temperate Zone slope to receive most heat from the sun?
10. Make a copy of the drawing, showing the division of the earth into zones.

### 19. The Seasons, and Day and Night

The sun warms most that part of the earth where it is directly overhead. It has less effect where its rays fall obliquely, chiefly because the same amount of heat is then spread over a larger space on the earth. It is also partly due to the fact that when the rays fall obliquely, they pass through the air for a longer distance and lose much of their heat in the air before reaching

the earth. These are the chief reasons why the sun's rays do not seem so warm shortly after sunrise or before sunset as in the middle of the day.



If the sun were continually over the equator, it would always be very warm in regions near the equator and very cold in regions toward the poles. The temperature on any part of the earth would continue nearly the same throughout the year.

The changes that give us the four seasons of the year are caused by the inclination of the axis of the earth, together with the revolution of the earth about the sun. On the 21st of March the sun is directly over the equator, and the onward movement of the earth causes the sun to pass over points farther and farther north. On the 21st of June it reaches its northern

limit, or the Tropic of Cancer. In the United States the sun at that time of the year seems highest in the heavens. It is then summer on the northern half of the earth and winter on the southern half.

The continued movement of the earth on its course about the sun then causes the sun to seem to move farther south. On the 21st of September it reaches the equator again, and on the 21st of December it reaches the Tropic of Capricorn and is as far south of the equator as it was north on the 21st of June. It is then summer on the southern half of the earth and winter on the northern half.

It is the revolution of the earth, also, combined with the inclination of the earth's axis, that causes the differences in the length of the days and the nights. When the sun is overhead at the equator, the days and nights are everywhere equal, because any point on the earth is in the sunlight one half of the time and in darkness the other half. This is true twice in the year, on the 21st of March and the 21st of September. The word "equinox" means equal night, and these two dates in the year are called the equinoxes because then the nights are everywhere equal to the days.

When the sun is north of the equator, although one half of the surface of the earth as a whole is still in the sunlight, during the daily rotation of the earth any point north of the equator is in the sunlight more than half the time, and any point south of the equator is in darkness more than half the time. The days are then longer than the nights in the Northern Hemisphere and shorter than the nights in the Southern Hemisphere.

These differences increase with the distance from the equator toward the poles. When the sun is north of the equator, if we could imagine ourselves starting at the equator and passing rapidly toward the North Pole, the days would become longer and longer, and we should finally reach a point where the sun would remain continually above the horizon.



The Midnight Sun at North Cape, within the Arctic Circle

If this imaginary trip were taken shortly after the 21st of March, when the sun had passed only a short distance north of the equator, the length of the days would change but slightly, and it would be necessary to go nearly to the North Pole before reaching a point where the sun would be in sight during the entire twenty-four hours. At about the 21st of June the length of the days would be greatest and at that time we should find continual day after reaching the Arctic Circle, or a point  $23\frac{1}{2}$  degrees from the North Pole.

In passing south of the equator at this time, we

should find precisely the opposite to be true. The length of the nights would increase, and beyond the Antarctic Circle there would be continual darkness.

These changes of the seasons, caused by the fact that the earth's axis is inclined during the revolution around the sun, are of great practical importance to the earth's inhabitants. If the axis were not inclined, it would matter very little to us whether the earth revolved around the sun or not. The sun would always be over the equator, and the days and nights would be always and everywhere of equal length. Regions toward the poles on which the snow and ice melt away in long summer days and where grasses and mosses grow, would then be frozen throughout the year. Parts of the temperate regions, where the earth produces enough in summer to supply the wants of man during the cold winter, would then be too cold during the entire year for the growth of vegetation. As a result much of the land of the earth would be unfit for human habitation.

1. At the North Pole for what part of the year is the sun entirely out of sight?
2. What would be the effect if the North Pole were turned toward the sun, as it is on the 21st of June, and the earth should cease to revolve about the sun?
3. What would be the effect if the earth's axis were inclined more than  $23\frac{1}{2}$  degrees?
4. Why do we see different stars overhead in the evening at different times of the year?
5. Why is the shadow caused by a tall object longer in winter than in summer?
6. In which months do the days grow shorter and in which do they grow longer?
7. How long are the days at the Arctic Circle on March 21?
8. How long are the days at the Antarctic Circle on December 21?

9. How long are the days at the North Pole on April 1?
10. Are the days longer in the month of December, in Argentina or in Peru?
11. In what countries of South America are the summer days about as long as summer days are in New England?
12. In the southern part of South America does the sun at noon appear to be farther north than a point directly overhead, or farther south?

## 20. Winds

The air that surrounds the earth is very easily set in motion. We know that when a body of air becomes lighter than other bodies of air near it, the heavier air moves under the lighter air and presses it upward.

In this way great bodies of air over a large extent of the earth's surface are set in motion. Although a body of air may expand and become lighter from other causes than heat, the unequal temperature of different localities is a very common cause of movements in the atmosphere.

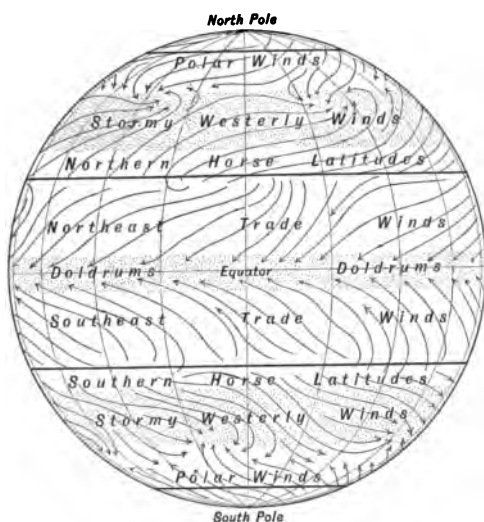
There are many special reasons for winds or breezes in particular regions, as in the case of land breezes and sea breezes near the ocean. In the United States the circular or spiral movement of the air around cyclonic storm centers often causes the wind to change rapidly from one direction to another.

But besides local variable winds on certain parts of the earth there are prevailing winds, which blow in the same general directions during long periods of time, or during the entire year.

Such constant winds prevail in the torrid regions near the equator. There the air becomes heated by the vertical rays of the sun and is pressed upward by cooler and heavier currents from the north and the south. As

the warm air rises it passes toward the north and the south, above the currents of cooler air that are moving in opposite directions.

If the earth were still, instead of rotating, these winds would generally blow directly toward the equator from the north in the Northern Hemisphere and from the south in the Southern Hemisphere, and the upper re-



turning currents would move directly north and south. But the rotation of the earth changes the direction of the wind, so that north of the equator it blows from the northeast and south of the equator from the southeast.

One reason for this is that the air, in passing toward the equator, travels into regions that are moved around faster by the earth's rotation than the regions from which it came, and hence it falls behind. On a steamer that is moving rapidly toward the east in a time of calm the wind seems to the passengers to blow from the east toward the ship. If the wind were really blowing from the north or the south, it would seem to blow from the northeast or the southeast.

Parts of the earth's surface near the equator are carried along by the earth's rotation faster than parts at some distance from the equator, because they move around in a larger circle in the same time. Hence the effect is the same as that on a ship that is moving east, and the wind becomes northeast or southeast.

The region near the equator, where heated air is generally rising and hence producing but little motion that is apparent on the earth's surface, is called the belt of equatorial calms, or the doldrums.

The prevailing winds that blow toward the belt of equatorial calms from the northeast and the southeast are called the northeast trade winds and the southeast trade winds. They are so named because they may be of advantage to ships engaged in trade or commerce.

As the heated air that rises and moves toward the poles cools again, it becomes heavier and falls toward the earth's surface. It thus interferes with currents that are moving toward the equator and checks the motion of these currents, producing light, variable winds or a calm. The regions where this occurs are called the horse latitudes, although the origin of this peculiar name is not certainly known.

Portions of the upper returning currents of air that fall toward the earth continue their motion, but on account of the rotation of the earth they are turned toward the east, instead of moving north or south. The explanation of this is the same as that of the northeast and southeast trade winds, except that as these currents of air are moving from the equator toward the poles, the effect is precisely reversed and the prevailing westerly

winds are produced. This westerly wind prevails in the northern part of the United States whenever it is not disturbed by the movements of cyclonic storms.

There are thus three general classes of winds, covering, in succession, three belts, or regions, north and south of the belt of equatorial calms: the regions of trade winds, the horse latitudes, and the regions of prevailing westerly winds.



Effect of the Wind at Sea

Since the line where the sun is overhead moves north and south during the year, the belt of equatorial calms and the belts of prevailing winds naturally move north and south at the same times.

1. Why is the wind generally more steady and regular on the ocean than on the land?
2. What belt of winds may be of assistance to vessels sailing from Europe to North America?

3. What belt of winds may aid them when sailing in the opposite direction ?

4. It is said that on the first voyage of Columbus to America prevailing winds drove his ships farther south than he intended to go. What winds were these ?

5. Are the prevailing winds favorable or unfavorable for ships sailing from San Francisco to the Hawaiian Islands ?

6. What belt of winds might be favorable to a vessel sailing east from Australia to South America ?

7. Why do westerly winds prevail farther south in the United States in winter than in summer ?

8. Make a copy of the drawing, showing the directions of prevailing winds in the different belts.

## 21. Rain

Rain is produced through movements of the air, as we have already learned. We know that the air always contains some moisture, and that it continually tends to gather moisture until it can contain no more. It is then said to be saturated, or at the dew-point. We also know that air can contain more moisture when warm than when cold, so that as it becomes cooler the amount of moisture that it can contain becomes less. For this reason the air in winter is generally drier than in summer.

Whenever a body of saturated air becomes cooled below the dew-point, that is, the lowest point at which it can contain all its moisture in the form of invisible vapor, some of the vapor collects, forming fog, clouds, or drops of rain.

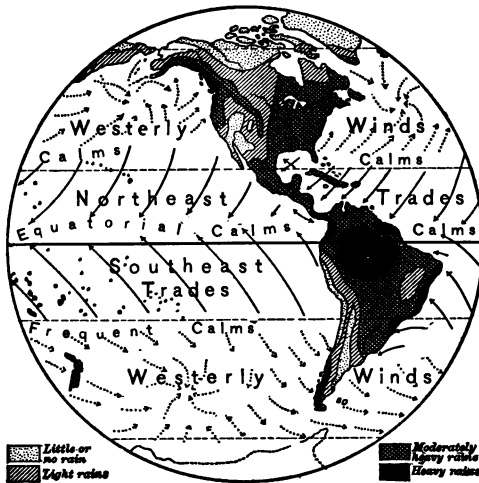
In the equatorial belt of calms there is usually a large amount of rain, because the air becomes chilled when it rises into the cooler regions above the earth's surface. Rain in the equatorial belt is often in the form of afternoon showers. This is because the air becomes heated

by the midday sun and rises rapidly into cooler regions, where it can no longer contain all its moisture.

When the trade winds reach land after blowing for a long distance over the ocean, they usually cause a large amount of rain, especially if the land is hilly.

After a certain amount of water has fallen from the air in consequence of this cooling, no more will fall unless

it is cooled to a still lower point; hence the lands over which such air afterwards passes may not be well supplied with moisture. In regions north of the equator, where trade winds blow, there is usually the most rain on the east or north-east coast, and in



Rainfall of Western Hemisphere

regions south of the equator on the east or southeast coast.

In the horse latitudes, since the air is usually moving down toward the earth's surface, it is becoming warmer and might contain an additional supply of moisture without producing rain. In these regions therefore there is generally but little rain. The great arid section of the southwestern part of the United States and the northern part of Mexico is in the horse latitudes, for at least a portion of the year.

In the regions of prevailing westerly winds the effects are like those in the belts of trade winds, except that the greatest amount of rain is produced by these winds in the western parts of the lands over which they blow.

In the United States the westerly winds produce a



**In the Arid Regions**

heavy rainfall on the western slopes of the mountains near the Pacific coast, but after these winds have passed across the wide country to the eastern part, they have generally become too dry to produce much rain, and hence are the usual winds of fair weather.

As the wind belts move north and south with the changing seasons of the year, the amount of rain in many sections of the earth naturally varies with the seasons. A region may be in a belt of trade winds or of

prevailing westerly winds for a portion of the year and during the remainder in the horse latitudes. These changes produce wet seasons and dry seasons. In California the northern horse latitudes cause a dry season during the summer, but in winter the belt of prevailing westerly winds moves south and produces frequent rains.



**Above the Clouds on Mt. Washington**

1. Why is fog often produced when warm currents of air meet cold currents?
2. Why does fog often disappear when the air grows warmer?
3. The average downward pressure of the air at the level of the sea is about fifteen pounds on each square inch. Why is it less than this on the top of a mountain?
4. When some of the pressure upon a body of air is removed, it expands and in this way becomes cooler. Why is some of the pressure removed when a body of air rises above the earth's surface?
5. Why is there usually the most rain on that side of a body of land which the wind first reaches?
6. Why is there usually the most rain in the central and northeastern portions of the countries of Central America and the West Indies?
7. Why is there more rain in summer in Washington and Oregon than in California?

## 22. The Climate of South America

The effects of the changing seasons and of varying temperature, winds, and rainfall are well illustrated in the continent of South America.

Since the greater part of the continent lies south of the equator, the seasons are the opposite of those in North America. It is difficult to become accustomed to the thought of finding a colder climate by traveling south, but we must remember that in respect to temperature and seasons we live in a double world, and that it is as cold at the South Pole as at the North Pole.

South America as a whole is not so cold a continent as North America. Its broad northern part lies in the Torrid Zone and that portion which reaches south into a colder latitude is comparatively narrow. The southern extremity, also, is much farther from the South Pole than the northern part of North America is from the North Pole. Yet even in so warm a continent, cold regions are to be found on the elevated plateaus and among the mountains. Near the equator itself are high peaks of the Andes that are perpetually covered with snow.

There are three great systems of plains in South America, in the basins of the three great rivers, the Amazon, the Orinoco, and the Plata. The plains of the Amazon are called *selvas*, those of the Orinoco *llanos*, and those of the Plata *pampas*.

The climate of these plains, and the growth of vegetation that is due to the climate, indicate the movement of the belt of greatest heat and of abundant rainfall north and south with the changing seasons of the year.



The equator crosses the valley of the Amazon, and that part of the continent naturally receives the greatest amount of heat and rain.

Although the belt of equatorial calms moves to the north in our summer and to the south in our winter, it crosses the equator twice a year and the



**Tropical Foliage in Ecuador**

belt over which it produces abundant rain is very wide. There is always sufficient rain, therefore, to support forests in the selvas of the Amazon Valley.

The llanos of the Orinoco are so far north of the equator that when the belt of equatorial calms moves to the south, as it does in our winter season, there is a dry season on these plains and vegetation dies. Forests cannot live through such a dry period, but grasses grow in the rainy summer when the belt of equatorial calms moves north. The grass dies in the dry season, but the seeds that have fallen are ready to cover the plains with a new growth when the next rainy season begins.

For a similar reason, during our summer, which is their winter, while the heat belt is farthest north, the pampas of the south have a dry season; hence they are treeless and covered with grass like the llanos.



scarcely any rain falls for hundreds of miles along the coast of southern Peru and northern Chile. This strip of the western coast is called the Desert of Atacama.

The southern part of South America is in the region of prevailing westerly winds. As these moist winds from the Pacific meet the cool mountain slopes they cause much rain on the western side, but on the eastern side the supply is scanty.

Among the Andes there is great variety of climate. In ascending from the low plains at their base, we might pass gradually from a region of tropical heat through all the variations of a temperate climate, and at the summits of the mountains we should find perpetual snow.

1. On which side of the equator is the Amazon River?
2. Give reasons why the volume of water of the Amazon is greater than that of other rivers of the world.
3. During a part of the year the Cassiquiare flows into the Orinoco and during the remainder into a branch of the Amazon. Can you explain the cause of this?
4. How many large rivers flow into the Amazon from the south?
5. How many large rivers flow into the Amazon from the north?
6. Why have not the Plata and Parana rivers so many large branches as the Amazon?
7. Why are there so few rivers in the southern part of South America?
8. How many degrees from the South Pole is the southern extremity of South America?
9. Make an outline map of South America and indicate by shading the amount of rainfall in the different regions.

#### REVIEW

1. Why have we been inclined to regard South America as of comparatively small importance?
2. Why do the countries of South America trade more with Europe than with the United States?
3. How large is South America?
4. State how its physical features resemble those of North America.

5. Describe the Andes Mountains.
6. Why is it believed that the western coast of South America has been slowly rising above the ocean?
7. Tell about the original inhabitants of South America.
8. Give reasons why the natives of Bolivia, Peru, and Ecuador were more nearly civilized than other tribes.
9. What different classes of people are there in South America?
10. Give a brief account of the Spanish and the Portuguese in South America and the formation of the present republics.
11. Why is it most convenient to study temperature, winds, and rainfall in connection with the Western Hemisphere?
12. What is the axis of the earth, and what are the North Pole and the South Pole?
13. What is the equator?
14. If a man could stand at the North Pole for twenty-four hours, through what movements would he pass?
15. If the sun were always directly over the equator, how far would the sunlight reach?
16. What is the Tropic of Cancer?
17. What is the Tropic of Capricorn?
18. What is the Torrid Zone?
19. Why is the Arctic Circle  $23\frac{1}{2}$  degrees from the North Pole?
20. What are the North Frigid Zone and the South Frigid Zone?
21. Explain the method of finding the number of degrees in the Temperate Zones.
22. Why do the sun's rays warm the earth less where they fall obliquely than where they fall vertically?
23. What would be the effect if the sun were always over the equator?
24. What are the causes of seasons?
25. On what days of the year is the sun over the equator?
26. On what days is the sun farthest north and farthest south?
27. What causes the changes in the length of the days and nights?
28. At what times in the year are the days and nights equal?
29. Explain why the days are longer than the nights in the United States when the sun is north of the equator.
30. Explain why the days are longer in summer in Canada than in the United States.
31. Explain why it is always daylight in summer in portions of the North Frigid Zone.
32. What would be the practical effect upon the inhabitants if the earth's axis were not inclined?

33. What is the cause of the movements of large bodies of air?
34. What is the cause of prevailing winds in the torrid regions?
35. Why do these winds blow from the northeast and the southeast, instead of blowing from the north and the south?
36. Why are these winds called trade winds?
37. Explain the cause of the horse latitudes.
38. Explain the cause of prevailing westerly winds.
39. Why do the belts of prevailing winds move north and south?
40. When is the air at the dew point?



**Snow Peaks in the Andes**

41. Why is the air generally drier in winter than in summer?
42. Why is there much rain in the equatorial belt of calms?
43. Why do the trade winds usually produce a large amount of rain on the lands which they first meet?
44. Why is there but little rain in the horse latitudes?
45. In what part of a country do westerly winds produce most rain?
46. Why does the movement of wind belts north and south cause wet seasons and dry seasons?
47. Why is not South America, as a whole, so cold as North America?
48. What are the three great systems of plains of South America?
49. Why is there always an abundance of rain in the Amazon Valley?
50. Why are not the llanos and the pampas covered with trees?
51. Explain the cause of the Desert of Atacama.
52. Why is there much rain on the western side of the southern part of South America?

### 23. Brazil

Brazil, the largest country of South America, is larger than the whole of the United States, apart from the territory of Alaska and our island possessions. The country is divided into provinces, or states, some of which are larger than entire countries of Europe.



Tapir, Peccary, Tortoise, and Armadillo

But size alone is not an indication of the importance of a country. If we were to estimate Brazil according to the number of its inhabitants, it would not rank very high. Although it is nearly three hundred times as large as the European country of Belgium, it contains only about twice as many people.

There are good reasons why the greater part of Brazil has not become a white man's country. A region of great heat and moisture, large sections of which are covered with marshes and overflowed lands during parts of the year, is not generally healthful for the white race. None except native Indians, or Africans who are

accustomed to a similar climate, can work and live continually in the low valleys of the Amazon and its tributaries.

Even if the climate were not unfavorable, there are other obstacles to prevent settlement. The rain is so heavy and the land is so flat that at times the rivers



Homes of Rubber Gatherers on the Amazon

overflow their banks and cover broad sections of the country. There are dense forests which it would be necessary to clear away in preparation for settlement.

Although the soil is extremely fertile in most of the northern half of the country, only masses of trees and vines grow upon it, and the principal human inhabitants are the few Indians who live near the river banks.

This vast forest region is the home of a great number of wild animals, although they are not generally so large and fierce as those in the jungles of Asia and Africa. The fiercest of South American animals are the jaguar and the puma. The peccary is the wild boar of South America. A much larger animal than the peccary is the

tapir, the meat of which is good for food. Other peculiar animals are the ant-eater and the armadillo. Many smaller animals, such as the monkey and the sloth, live among the branches of trees. The boa constrictor of



Tapping a Rubber Tree

South America is strong enough to seize a passing deer and crush it to death. In the dense foliage there are numerous insects and birds of beautiful plumage. Fish, turtles, and alligators abound in the rivers and swamps.

The Amazon is the largest river in the world. It

is not so long as the Mississippi and Missouri combined, but three times as much water flows to the sea from the Amazon as from the Mississippi. In places it is several miles wide. At its mouth it is so wide that we might sail into it without being able to see either bank, and without realizing that we were really in a river except from the muddy waters, which affect the color of the ocean for a distance of five hundred miles from the coast.

Brazil gained independence from Portugal in 1822. Many of the white inhabitants are descendants of the

Portuguese who had settled along the coast. There are now more Portuguese in Brazil than in Portugal. The present population also contains Spanish and Italian immigrants and some Germans and Americans.

The industries of this great country are scattered and varied. The Amazon forests contain varieties of trees that would be valuable for timber and dyewood, if it were possible to obtain timber and ship it to market.

The greatest profit of the forests comes from the gum of the rubber trees. Up to the present time Brazil has produced

the greater part of the world's supply of rubber. Over fifty million dollars worth per year is shipped from the Amazon Valley, and more than one half of this comes to the United States.

Rubber has become one of the great necessities of life. People formerly got along without it, but we live in a different world from that of our ances-



Collecting "Latex" — the Sap of the Rubber Tree

tors. What a calamity would befall us if our supply of rubber were now cut off! It would be difficult to insulate electric wires. Our brakes for stopping cars would be gone. What could we do without tires for automobiles and bicycles? There are hundreds of other less important purposes, for which no substitute for rubber has been found. In the United States



A Street in Para

we now use about one half of the rubber supply of the entire world.

Gum for the manufacture of rubber goods is obtained from a variety of trees and vines which thrive only in a very hot, moist climate. Con-

siderable gum comes from parts of Mexico and Central America, and large quantities from central Africa. The unhealthful climate of the rubber-producing regions is a great disadvantage. It is said that every ton of rubber exported from the Amazon Valley costs a human life.

The chief center of the rubber trade of Brazil is the city of Para, but Manaus, a thousand miles farther up the river near the mouth of Rio Negro, is a prosperous city whose trade and population are rapidly

increasing. It is the capital of the state of Manaos, the largest state in the United States of Brazil. It is a surprise to travelers to find in the interior of this great forest wilderness a thriving modern city with electric cars and expensive public buildings. The existence of this prosperous city is due chiefly to profits from the rubber industry.



**A Coffee Plantation in Brazil**

Brazil nuts, or cream nuts, are another, though less important, product of the Amazon forests. These grow on tall trees in large shells, each of which contains from fifteen to twenty nuts. The trees are mostly to be found on the low lands near the rivers. The nuts usually fall in the season of heaviest rain when the rivers have overflowed their banks. After the

water recedes, the nuts are gathered together and loaded upon ships.

On the higher land in the southern parts of Brazil the climate is comfortable and healthful. In that



View in Rio de Janeiro

region the coffee plant thrives. From two thirds to three fourths of the world's supply of coffee is produced in southern Brazil. The greater part comes from the state of São Paulo.

The city of São Paulo is the center for the coffee plan-

tations. It is one of the finest cities of South America. On account of its elevation of twenty-five hundred feet, its climate is delightful. It is also a great educational center of Brazil.

Santos is the chief coffee port of the world. In the United States coffee from Brazil is commonly known as "Rio" coffee, and this gives the impression that it comes from Rio de Janeiro, although much of it is shipped from the port situated farther down the coast.

A beverage called yerba maté, that is largely used in South America, is prepared from the leaves of a fragrant forest tree found in southern Brazil and in the neighboring country of Paraguay. The leaves are prepared by drying and pulverizing. This drink is regarded as the least harmful of all stimulating beverages and a desirable substitute for tea and coffee. Because it is obtained from trees that grow without cultivation, it is less expensive than other beverages.



**Drying Coffee**

Since the discovery of the rich diamond mines of South Africa, we sometimes forget that diamonds are obtained in Brazil also. Half a century ago the mines of Brazil produced most of the diamonds of the world. Although the output of the Brazilian diamond mines is now small in comparison with that of the mines of Africa, it is still of considerable value. Brazilian diamonds are found in the gravel of the beds of some rivers. The gravel is obtained by divers, and is then carefully sorted for diamonds.

The chief city of Brazil is Rio de Janeiro. It has a safe and beautiful harbor with numerous islands. It



Plaza del Customs, Bahia

is the commercial center of the country. Almost daily, large European steamers enter its harbor. The name, which means River of January, was given by an early explorer who supposed the harbor to be the mouth of a river, and

as he first saw it in January gave the river the name of that month.

1. In what direction from Rio de Janeiro is Santos?
2. Bahia, the second city of Brazil, is noted for the fine oranges and tobacco that it exports. About how far is it from Rio de Janeiro?
3. Sugar, cotton, and hides are exported from Pernambuco. About how far is it from Bahia?
4. Small steamers pass up the Amazon as far as Iquitos, twenty-three hundred miles from the Atlantic. In what country is Iquitos?
5. Name cities of the United States nearest in size to Rio de Janeiro.
6. The most valuable diamond district of Brazil is in the vicinity of Diamantina. It is near the head waters of what river?
7. Sketch a map of Brazil, locating the principal rivers and cities.

## 24. Argentina

Argentina, also called the Argentine Republic, is smaller than Brazil, and yet it is a very large country. It is nearly one third as large as the United States, not including Alaska. Its length is equal to the distance from Hudson Bay to the southern point of Florida.



On the Pampas of Argentina

In some respects Argentina is similar to our great Mississippi Valley. It contains the most extensive plains in the Western Hemisphere, and on its western border some of the highest mountains. The Parana River, which has a width of from one to two miles, flows through the country for two thousand miles.

A section of this river near its mouth has a different name. In 1527 the explorer Sebastian Cabot sailed into this great southern river. Noticing that the Indian inhabitants of the region wore silver ornaments, he called the river Rio de la Plata, which means River of Silver. It is now commonly known as the Plata River.

Argentina has a vast amount of natural wealth and is one of the most prosperous countries of South America. Since it is mostly in the South Temperate Zone, its climate is not too warm for active and enterprising people. It is naturally a white man's country. It extends through so many degrees of latitude, from the borders



**An Argentine Ranch**

of the Torrid Zone to the southern point of the continent, that it yields a great variety of products.

A special advantage which renders it attractive to settlers is the fact that a very large part of its territory consists of treeless plains. With no forests to be cleared away, where there is no danger from wild animals, where rich, level land is ready for the plow, and where wagon roads and railroads are easily made, the farmer and the ranchman find the most favorable conditions for their occupations.

In the central part of the country the pampas are covered with coarse grass. In much of this territory

the climate is too dry for agriculture, and the herding of cattle, sheep, and horses has become an immense business. Ranches on the pampas are mostly inclosed with fences and, where rivers are wanting, water is usually supplied by artesian wells. On some of the large ranches there are hundreds of thousands of cattle.



**Drying Hides near Buenos Aires**

The eastern part of the country, near the Parana River, where the rainfall is sufficient, is a great grain-producing area. This section of Argentina, together with Uruguay, southern Brazil, and a portion of Paraguay, is becoming one of the great granaries upon which the world's people depend for their supply of bread. When the population of the United States increases so much that the surplus of our wheat fields will be needed at home, the cities of Europe will depend upon the pampas of South America, as well as upon the western plains of Canada.

South of the pampas, in that part of the country called Patagonia, the climate is dry, but grain and fruits

are produced by irrigation, and large flocks of sheep find pasturage.

In the northern part of Argentina, where there is sufficient rain and the climate is warm, coffee, sugar cane, tobacco, and various other crops are raised. In the extreme north there are extensive timber lands.



Wool Market, Buenos Aires

The chief wealth of Argentina consists in stock raising and agriculture, and the chief exports are wheat, meat, wool, and hides. In the mountains of the West are copper and silver mines.

But Argentina is only beginning to develop its wealth. A large proportion of it is in the condition of the states of our Central West half a century ago.

Because of the want of water power and coal mines, but little attention has been given to manufacturing. Raw products are shipped to manufacturing countries, and manufactured articles are brought back in return. Still, among such energetic people as those who have settled in Argentina, manufacturing enterprise will al-

ways appear. There are now sugar refineries and flour mills, and cotton, wool, and leather are manufactured.

The population consists mostly of Spaniards, Italians, Englishmen, and Germans. It is constantly increased by immigration from Europe, and there will be plenty of room for settlers for many years to come.



Plaza Victoria, Buenos Aires

The ease with which railroads can be built renders it possible to open all its desirable parts for settlement. Many thousand miles of railroad have already been constructed. On parts of the pampas the land is as flat as a table. Across these plains railways may be built for hundreds of miles in perfectly straight lines.

Buenos Aires, the capital of Argentina, is the largest and most wealthy city of South America. It is the great center through which the trade of the country is carried on. In some respects its situation is similar to that of New York City. It is the landing place for thousands of immigrants, many of whom remain in the city to swell its population. Spanish is the prevailing

language, and it has become the chief Spanish-speaking city of the world. Its population has increased faster than that of any city in the United States except New York and Chicago. For preparing meats for shipment the city has the largest refrigerating plant in the world. It is an attractive city of substantial buildings and



Loading Wheat at Rosario

broad streets, and contains many beautiful parks and boulevards.

A disadvantage of this city's shipping conveniences is the constant necessity of dredging the river bed in order to make a passage deep enough for ocean vessels.

The mouth of the Plata River is many miles wide and, like the Mississippi and some other large rivers, the river bed is being continually built up by the deposit of mud. It therefore becomes very shallow. Ships ready to sail for Europe are often obliged to wait for hours until the rise of the tide enables them to pass safely over sand bars.

So large a part of Argentina consists of level plains that it does not contain many natural features of interest

to travelers. It can boast of a waterfall, however, more wonderful than Niagara. On the upper Parana River, at the meeting point of the three countries of Argentina, Paraguay, and Brazil, is the cataract, or falls, of Iguazu, six thousand feet wide and much higher than Niagara. At some time this waterfall will probably become a great center for producing and distributing electric power.



**Indian Women of Northern Argentina**

In northern Argentina is a great forest region called the Gran Chaco. It is inhabited by barbarous Indians and contains many wild animals such as are found in the forests of Brazil.

On remote parts of the pampas the rhea, or South American ostrich, is found. It has no plumes in its tail like the African ostrich and is of little value.

The two smaller countries of Paraguay and Uruguay are similar to the neighboring portions of Argentina in respect to climate and natural resources. Although small, they are very rich in agricultural possibilities.

The greater part of Uruguay is a grassy plain on which immense herds of cattle and flocks of sheep are raised. The products of Paraguay are more varied. Oranges from that country are noted for their excellence. The people depend largely for their food upon manioc, a plant producing roots resembling sweet potatoes. From these roots tapioca is prepared.



Montevideo

1. What river separates Uruguay from Argentina?
2. During a portion of the year the rivers of the southern part of South America contain but little water. Why is this true?
3. What cities of the United States are nearest in size to Buenos Aires?
4. Name some articles that Argentina would be likely to import from Europe in exchange for the products of the ranches.
5. Bahia Blanca is the chief port of Argentina on the Atlantic coast. About how far south of Buenos Aires is it situated?
6. Rosario is one of the chief wheat-shipping ports of the country. About how far up the river above Buenos Aires is it?
7. Cordoba is a business center and contains a large university. In what part of the country is it situated?
8. Montevideo is an important port. In what part of Uruguay is it?
9. Name the capital city of Paraguay.
10. Make a map of Argentina, Uruguay, and Paraguay, showing the rivers and principal cities.

### 25. Chile

Chile is situated along the western coast of the southern part of South America between the Andes Mountains and the sea. It is the longest country in proportion to its width in the entire world. In breadth it ranges from forty to two hundred miles, while its



Plaza at Valparaíso

length is equal to the distance from the southern part of the United States to the Arctic Circle.

It ranks with Brazil and Argentina among the most progressive countries of South America. Although it has no vast opportunities for agricultural wealth like the neighboring country of Argentina, it has a favorable climate, a good government, and various profitable industries. For these reasons many Germans, Englishmen, and Frenchmen have settled in Chile.

The most prosperous portion, often called Chile Proper, is the great central valley lying between the coast range and the Andes. In this section is the greater part of the population. The land is very fertile, and much of it is irrigated from mountain streams. It produces a great amount of wheat, which is exported



**National Congress Building, Santiago**

to Europe. The valley also yields large quantities of fruit, nuts, and various other products.

The largest seaport of Chile, as well as the largest port on the western coast of South America, is Valparaiso. It is the port for the capital city, Santiago, and is the outlet for the commerce of the great central valley. Millions of dollars have been expended upon improvements in the harbor of Valparaiso.

Santiago is a beautiful and wealthy city with a delightful climate. It is situated at a distance from the coast with snow-capped peaks of the Andes in full view.

It is in the midst of some of the richest copper mines of the country.

It is an unfortunate fact in connection with these two cities that they are in a region subject to earthquakes. For this reason the buildings are constructed of moderate height. In 1906 portions of Valparaiso were laid in ruins by a violent earthquake.



On the Trans-Andean Railroad

In recent years a railroad has been constructed across the continent, leading from Valparaiso and Santiago up the long mountain slopes and through tunnels to the eastern side, then across the broad pampas to Buenos Aires. This saves many hundreds of miles in the length of the journey from Chile to the cities of Europe. This railroad also serves to promote friendly relations between the two adjoining countries, which formerly engaged in frequent quarrels and bloody wars.

High up on the Andes, near the boundary line between Chile and Argentina, travelers see an interesting object. It is a statue of Christ which has been erected by the two countries as a token of their pledges of peace.

The northern part of Chile is a portion of the great western desert where rain seldom falls. On the greater part of this sandy waste there are no living plants, though here and there moisture is supplied to narrow strips of land by irrigation from mountain streams.



Workers in the Nitrate Beds

Strangely enough, in the sands of this barren desert the government of Chile finds its richest source of wealth. At a depth of a few feet below the surface there are beds of white or brownish salt extending across a strip of desert more than four hundred miles long.

It is not definitely known how this great bed of crystallized salts came into existence, but it is believed that it was formed in an ancient lake that dried up millions of years ago. The salt is readily dissolved in water, and the fact that it has remained through the centuries is due to the absence of rain.

The pure salt in this substance is nitrate of soda. This is useful for making nitric acid and some other substances, but it is used chiefly as a fertilizer. Nitrogen is one of the necessary elements of plant food. In many farming regions, after crops have been raised for years, the supply of nitrogen in the soil becomes exhausted, and more must be added to make the land profitable. The fertilizers prepared by manufacturers



**Nitrate Works at Primitiva**

and sold to farmers and gardeners contain a large amount of nitrogen, much of which comes from the nitrate beds of Chile.

As the substance is first obtained from the beds, it contains a mixture of sand. At the works located near the beds the pure nitrate of soda is dissolved in vats of hot water. The water is then drawn off, and as it cools the nitrate crystallizes. It is transported by railroads to ports on the coast and then is shipped to the markets of the world. A large amount is shipped from the ports of Iquique and Antofagasta. Valparaiso also is a great center for the nitrate trade. Much nitrate is shipped

to Germany to fertilize fields of sugar beets. Some is marketed in Great Britain and France and some in the United States.

The nitrate territory formerly belonged to Bolivia, but as the result of a war between Chile and Bolivia, Chile added to her territory twelve hundred miles of sea-coast, including the rich nitrate beds. The government of Chile holds control of the beds and receives a certain



Native Chilean Carts

sum for every hundred pounds of nitrate that is mined. This amounts to many millions of dollars per year. It is estimated that this great supply of nitrate will be exhausted by the middle of the present century. It will then be necessary to obtain nitrogen for fertilizers from other sources, and the Chilean government will need to devise other means of raising revenue for its support.

In southern Chile the cool climate and the abundant

rains that come from the prevailing westerly winds produce conditions similar to those in the northern part of the United States. The mountains and hills are covered with forests, and lumbering and fishing are important industries, as they have been along our New England coast.

There are many German settlers in these forest sections of Chile. They are clearing the land for farming,



**A Chilean Country Fair**

and building lumber mills. Germans are skilled in the production of leather, and with the bark of forest trees these settlers are tanning large quantities of skins and are shipping leather to Germany.

Southern Chile is the home of the Araucanians, a tribe of Indians similar to those of North America. For a century the Spaniards struggled to overcome these

Indians and lost many lives in the struggle, but they were never successful.

The largest commercial center of southern Chile is Concepcion. It has a good harbor and the advantage of being near important coal fields. There is but little coal in the countries of the Pacific coast of South America. The quality of that in the mines of southern Chile is not good, but it is so near the sea that it can



Patagonia Indians of Terra del Fuego

be loaded on vessels at small cost. Concepcion is therefore an important coaling station for vessels on long voyages.

Farther south along the western coast there are a few Indians who have not yet been much influenced by civilization. They still clothe themselves only partially and with the skins of animals. They live much of the time in their canoes, and eat fish and whale blubber, and the flesh of some land animals.

The western portion of the island named Terra del Fuego belongs to Chile. A large part of this island is covered with forests and fertile plains. On the grassy slopes sheep herding is becoming an important occupation, though the herders encounter great opposition from a dangerous tribe of Indians who inhabit the island. These Indians seem to have no inclination to become friendly to the white man and to adopt his customs, but



**In the Strait of Magellan**

are ready, when opportunity comes, to murder the shepherds and drive their flocks into the forests.

The Strait of Magellan, between Patagonia and Terra del Fuego, affords a safer and shorter passage for steamships between the Atlantic and the Pacific than the stormy route around Cape Horn.

The most southern town of the Western Hemisphere is Punta Arenas, the name of which is the Spanish equivalent for Sandy Point. It is situated on the Strait of Magellan, a thousand miles from any other place of importance and much farther south than any other city in the world. It has been called the "World's Cross-

roads for Ocean Travel." It is of great importance as a coaling station and as a center of supplies for passing vessels. Ships of all countries call here and exchange goods or take on needed supplies.

While in our study we are at the southern extremity of the continent, it is a fitting time to inquire what there may be in the Antarctic regions about the South Pole. Adventurous explorers have made voyages to the icy regions of the far south and have attempted to cross the ice to the South Pole.

An immense ice cap of great thickness has been found to cover these polar regions. It is difficult to determine how much land there may be buried beneath the masses of ice. One body of land is named Graham Land and another King Edward Land.

In the year 1908 an English explorer, Lieutenant Shackleton, succeeded in reaching a point only one hundred and eleven miles from the South Pole. He found that the region near the Pole is a high plateau, and observed several mountain ranges and more than one hundred lofty mountain peaks. Members of his party climbed to the top of Mt. Erebus, which is the most southern volcano in the world.

Shackleton also discovered beds of coal. This indicates that probably in that region, now so intensely cold, the climate was once very warm. It would be strange indeed if, at some time, the inhabitants of the earth should be obliged to go to the polar regions for a supply of materials necessary to keep them warm.

It appears that no human beings dwell in that remote part of the world, though the ocean contains sev-

eral varieties of whales and seals and an abundance of other marine life on which these feed. The region is also the home of a great number of birds, including penguins and petrels.



**Uspallata Pass, between Argentina and Chile**

1. Why are there no long rivers on the western side of the Andes?
2. Mt. Aconcagua is one of the loftiest mountains in the Western Hemisphere. Near what city of Chile is it situated?
3. About how far south of Valparaiso is Concepcion?
4. About how far is it from Punta Arenas to Buenos Aires?
5. About how much farther is it from Valparaiso to Buenos Aires by steamer through the Strait of Magellan than by the railroad across the Andes?
6. When the Panama Canal is completed, what will probably be the effect upon the price of nitrate of soda in the United States?
7. Why will there be less need of Punta Arenas as a coaling station after the Panama Canal is completed?
8. About how far west of Chile is the island of Juan Fernandez?
9. Which country of South America most nearly resembles the United States in climate?

### 26. Bolivia, Peru, Ecuador, and Colombia

The four countries in the northwestern part of South America are so nearly alike in physical features, climate, people, and industries that we may study them together.

The greater part of their territory consists of ranges of the lofty Andes with elevated plateaus among them. There is a narrow strip of lowland along the Pacific



**Ruins of first Spanish Settlement in Peru**

coast, and to the east the countries extend into the basins of the Amazon and the Orinoco.

No part of the world has more striking contrasts of climate. On the lowlands so near the equator it is, of course, very warm, but the altitude of some of the plateaus is so great that, even at the equator, the air is too chilly for comfort. Snow-capped mountains are in sight in every direction.

Between these extremes there is every variety of climate and vegetation. Crops of the temperate zones are grown at an altitude of ten thousand feet in the

central plateau region. Such farming has been termed "cultivation in the clouds."

In the history of this part of South America we have a sad story of the cruelty of the Spanish to the native Incas. It is a repetition on a more impressive scale of the ruin inflicted by Cortez upon the Aztecs of Mexico.

We are accustomed to regard the native Indians of the Western Hemisphere as necessarily simple and ig-



Ancient Inca Bridge near Guaranda

norant, if not barbarous. It is therefore surprising to learn that among these far-off mountains of South America there was a nation of red men who, although beset with the greatest difficulties, had reached a very high stage of civilization without any assistance from the white man.

The Incas were skilled in agriculture and had built towns and good roads and bridges. Ruins of their public works are still to be seen in the city of Cuzco and in other places in Peru and Ecuador. If they had been

left to preserve what they had gained and to make further advancement, they might have become wonderfully enlightened and prosperous.

But the Spanish greed for gold and silver destroyed the Incas. The Spanish adventurers had no interest in the people whom they found in the New World. They were in search of selfish gain, and had no scruples.



Cloth woven by the Incas

They found precious metals abundant in the land of the Incas. Cuzco was the grandest city of these Indians. Some of its temples and palaces were plated with gold, but the Spaniards tore off the plates and loaded them upon their horses. It is said that Pizarro robbed these buildings of gold and silver

ornaments valued at nearly one hundred million dollars.

The story of Pizarro's treatment of the Indian chief Atahualpa stirs us to indignation. The chief accepted an invitation to dine with the Spaniard, but was treacherously seized and executed. The spirit of the people

was crushed. They were reduced to slavery and forced to toil for their foreign masters.

Since the rebellion of these countries against Spain and the establishment of their independence, conditions



Llamas

have improved, though progress has been slow. Indians are still much more numerous than white people, but they are mostly poor and ignorant.

The mines of this region are the greatest source of wealth. Gold is so abundant on some of the eastern slopes of the Andes that in the dry season grains of the precious metal can be picked up in the beds of streams. In fact, the Incas obtained much of their gold in this manner. The silver mines, also, are exceedingly rich. Over three billion dollars worth of silver has already been taken from the mines of Mt. Potosi in Bolivia.

But the operation of mines requires capital and skill. Railroads, also, are needed to carry machinery and supplies to the mines from the seacoasts and to transport

the ore. It is very difficult and expensive to construct railroads in such mountainous districts, and miners have been obliged to depend upon slow and expensive transportation by trains of pack animals. Besides the faithful donkey, the llama and alpaca are commonly used for this purpose. Before the Spaniards came, the Incas



On the Oroya Railroad

used these animals as beasts of burden and their wool for clothing. The vicuña, an animal similar to the llama, yields wool of very fine quality.

Railroad building was once believed to be impossible in these mountainous countries, but the skilled modern engineer is now solving the problem. We are pleased to know that the first great railroad in the mountains of South America was the work of an American. This line is called the Oroya Railroad. It was built from

Callao, on the coast of Peru, up into the mountains, around difficult curves, over gorges, and through tunnels. Much of the roadbed is cut out of solid rock. In order to reach higher and higher points, the road winds about and takes zigzag courses in its upward climb. It finally reaches a plateau among peaks over three miles above the sea.



La Paz, Bolivia

Other similar railroads have been undertaken, largely by American capitalists who are expending hundreds of millions of dollars upon the undertaking. The owners expect, of course, to obtain profit for their investments from the mines along the way.

Bolivia is more than twice as large as Texas. The loss of the strip of seacoast containing nitrate beds, in the war with Chile, was a great calamity, but the country is still rich in resources. It has valuable agricultural lands, as well as mines of gold, silver, tin, and copper.

The journey to La Paz, the Bolivian capital, is now made by railroad from Mollendo on the Pacific coast to Lake Titicaca, and across the lake by steamboat. This lake is twelve thousand five hundred feet above sea level. It is the most elevated navigable body of water on the earth.



**Indian Cart crossing the Mountains near La Paz**

Peru is nearly as large as Bolivia. It is as large as the combined territory of all our Atlantic states.

Nearly every known mineral is found in the mines of Peru. Many of these mines are owned by Americans.

There are very rich silver mines at Cerro de Pasco. Silver was accidentally discovered there by an Indian. He built a camp fire on a rock, and in the morning found that the rock had melted and changed to silver.

Lima, the capital, is one of the oldest cities in South America. It was founded by the conqueror Pizarro. In these countries the Spaniards located their first cities among the mountains, partly because of the comfortable climate and partly because of the mines. Lima is situated in the valley of a mountain river and is connected

by the Oroya Railroad with the port of Callao, as Santiago is connected with the port of Valparaiso. On account of the frequency of earthquakes among the Andes, the houses of Lima and the other mountain cities are built very low.



**Native Grass Boats, Lake Titicaca**

The melting snows of the mountains produce small rivers which flow to the Pacific across the narrow desert of the coast. The only inhabitants of the dry coast region live near these streams, where they irrigate narrow strips of land and convert them into productive farms.

Cotton is an important agricultural product of Peru. Two varieties are grown there. One of these yields long, coarse, brownish fibers, and is useful for manufacturing articles for which much strength is required. Another variety is exceedingly fine and is known as vegetable wool, or wool cotton. This is used with wool in manufacturing stockings and hats. This variety is

produced by irrigation on land that centuries ago was irrigated by the Incas. Although cotton is one of the chief products of Peru, the amount produced there is very small compared with our own cotton crop.

Peru is noted for its valuable medicinal plants. The cinchona tree grows there, from the bark of which



Lima, showing Cathedral

quinine is made. Cocaine is prepared from the leaves of the coca plant, which grows to a height of four or five feet. The Indians of Peru and Bolivia have the habit of chewing coca leaves.

The absence of rain on this western coast, which has made the nitrate beds of Chile so valuable, has brought millions of dollars into the treasury of Peru also. The Guano Islands near the coast have been for centuries the resort of millions of sea birds, such as penguins and sea gulls. On account of the dry climate, the accumula-

tions of fertilizer have not been washed away. This fertilizer is sold for high prices in the markets of Europe and the United States.

Ecuador is the smallest of these four countries, but in some respects it is the most interesting. The name



Street in Quito

means equator. It was given to the country by the Spaniards because the equator extends across it.

Quito, the capital city, is very near the line of the equator, but its altitude of nearly ten thousand feet gives it a temperate climate. It would seem strange to go to the equator to find relief from hot weather, but travelers find Quito a very agreeable abiding place. The entire year there is said to be like spring. The temperature rarely rises above seventy degrees or sinks below fifty degrees. We remember, too, that at the equator the days and nights are of equal length through-

out the year. The city lies in a valley at the foot of very high snow-capped mountains. From its streets



Young Indians in Quito

one can see as many as twenty volcanic peaks, among them Chimborazo and Cotopaxi. The latter is the highest active volcano in the world.

Quito was an important city of the Incas, and its present population is composed largely of their descendants. A street scene in Quito, as in other cities among the

Andes, affords an interesting spectacle. The chief article of clothing for Indian men, besides white trousers, is the *poncho*, which is a large bright-colored square of cloth with a slit in the center for the head. The corresponding garment for women is a black veil, or shawl, which is wrapped about the head and neck and hangs over the shoulders. The streets are usually filled with Indians leading or driving mules, donkeys, horses, oxen, and llamas loaded with a great variety of articles.

Quito is connected with its seaport, Guayaquil, by a

railroad that is almost as wonderful as the Oroya Railroad in Peru. Guayaquil is situated a short distance up the river Guayas, the largest South American stream that flows into the Pacific. It is an important shipping point and will become still more important when ships pass through the Panama Canal.

About one third of all the cacao seeds, or beans, from which chocolate and cocoa are prepared, is produced in the valley of the Guayas River. It is shipped from Guayaquil.

The cacao tree is also cultivated, to some extent, in other tropical countries of North America and South America and in the West Indies.

The fruit of this tree consists of a large fleshy pod of bright yellow color, which grows directly out of both the branches and the trunk. The pods are cut from the tree, and the seeds, which are as large as lima beans, are removed, dried, and shipped to factories in the United States and Europe. The seeds contain a



Gathering Cacao

large amount of fat, and in the process of preparing chocolate and cocoa much of this is separated and is known as cocoa butter..

Many ivory nuts are exported from Ecuador. From these, our so-called bone buttons are made.

One of the chief industries in Ecuador is the manufacture of hats. They are called Panama hats because they are sent to market by way of Panama.



**Mule Train near Bogota**

Colombia was named for Columbus. The western part of this country is occupied by ranges of the Andes, and in a valley between these ranges flows the Magdalena River. The eastern part contains a section of the llanos of the Orinoco. Colombia formerly included the territory of the present country of Panama, but the latter country established its independence in the year 1903 because of troubles that arose on account of the Panama Canal. It is still a large and naturally rich country, but its development has been very slow.

The easiest entrance into Colombia is by the Magda-

lena River. In the valley of this river much coffee is raised, also cacao and quinine.

Bogota, the capital city, has a beautiful situation and an agreeable climate, like Quito, but it can be reached only by boat up the Magdalena River and then by mules for a long distance over the mountains.

1. Why is it so much cooler on the mountains, at the equator, than on the lowlands?

2. In what country is Cuzco, the old capital of the Incas?

3. Potosi is the highest city in the world. In what part of Bolivia is it?

4. Arequipa has a large trade in alpaca wool and other wools. Where is it situated?

5. Iquitos is the center for the rubber trade of Peru. By what route can the rubber be sent to market?

6. What volcano is near the city of Guayaquil?

7. What town is situated near the mouth of the Magdalena River?

8. How will the trade and development of these northwestern countries be affected by the opening of the Panama Canal?

9. Give reasons why the eastern portions of these countries have not been more fully explored.

10. Make a map of these four countries, showing the principal cities and rivers.



Statue of Bolívar

### 27. Venezuela and Guiana

In the northern part of South America are Venezuela and three colonies of European countries, which together are called Guiana.

Though this part of the continent faces Europe and the United States, it has not profited by this advantage over more remote sections. The reasons for this are readily understood.

In Guiana and that part of Venezuela which lies near the coast the climate is not desirable, and the government of the latter country has been so bad that foreigners who have been inclined to invest money and engage in business have not been fairly treated. It has even been necessary for foreign countries to send war-ships to make Venezuela pay its debts and deal justly with citizens of other nations.

The history of Venezuela is a marked illustration of the fact, already familiar to us, that ignorant peoples are not capable of self-government. Simon Bolivar, the leader of the South American countries in their rebellion against Spain, began his work in Venezuela, and a statue of the great liberator stands aloft in its capital city. But quarrels broke out so soon among the peoples for whom he had fought that he became disheartened, and the last words that came from his dying lips were, "I have plowed in the sea."

During the past seventy-five years there has been upon the average more than one revolution a year in Venezuela. This has kept the country in a continual state of warfare: The leaders of the contending parties

have given chief attention to their own selfish interests, and the welfare of the people has been neglected. The death rate resulting from war and disease has been enormous. Taxes imposed by the government have been so high that many kinds of business have become unprofitable. In a country whose great resources



The Orinoco at Ciudad Bolivar

should have attracted a large number of immigrants, there has been an actual decrease in population.

Although the country near the seacoast is hot and unhealthful, a large portion of it is sufficiently elevated to insure a comfortable climate. Among the mountains there are many fertile plateaus and river valleys. At an elevation of ten thousand feet above the sea there are rich plateaus on which herds of cattle graze.

The great Orinoco basin is healthful and fertile. It has the possibilities of great wealth and could support a large population, but it is still in a very backward

state. Herds of cattle feed upon the grasses, but they are of an inferior kind, with long horns and small bodies. They are raised chiefly for their hides. Some meat, however, is torn apart in strips and dried in the sun. This is called "jerked beef," and much of it is consumed in South America and Central America.



In the Interior, Venezuela

It is claimed that the Orinoco has four hundred navigable branches. Its basin receives such an abundant rainfall that nearly as much water flows from it as from the Mississippi, although the basin of the Mississippi is many times as large.

When the Orinoco plains can be reached by steamboats and railroads, and when a reliable government can be established, the country may become one of the most productive regions of the world.

Besides the rich grassy plains of the interior, there are valuable forests of vast extent. Although the country is believed to be rich in minerals, there has been but

little mining. In the mountain valleys coffee and sugar cane are the principal crops. On the lowlands and along the rivers, cacao, tobacco, and tropical fruits flourish.

Caracas, the capital city, is situated in a mountain valley where the climate is excellent and the scenery is magnificent. It is only five miles distant, in a direct line, from the port of La Guayra; but the railroad from that port turns so much in ascending the mountains that it requires a journey of twenty-three miles to reach the capital.

Guiana consists of three colonies, which belong to Great Britain, Holland, and France. The white settlers

of these colonies live mostly near the coast. The land is generally very fertile, and sugar cane and tropical fruits grow luxuriantly.

British Guiana once belonged to the Dutch, who built dikes to prevent the sea from overflowing the lowlands, as they build them in Holland. Georgetown, which is now the capital of British Guiana, was built by the



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Caracas, showing Federal Palace and University

Dutch on land lower than the sea level, and was protected by dikes.

Dutch Guiana at first belonged to the British, but at the close of a war between Great Britain and Holland it was given to the Dutch in exchange for New York. The capital, Paramaribo, has houses with tile roofs, and in general appearance it resembles the cities of Holland.

French Guiana is used by the French government as a penal colony, or a home for convicts, who are given land to cultivate. After a time they are permitted to send for their families and become permanent settlers.

1. In what part of Venezuela is Lake Maracaibo?
2. There are petroleum and asphalt fields near Maracaibo. Near what part of Lake Maracaibo are they?
3. Near what part of Venezuela is the British island of Trinidad?
4. Steamships on the way to Venezuela usually stop at the Dutch island of Curaçao. About how far is it from La Guayra?
5. Steamships also call at Puerto Cabello. In what direction from La Guayra is this port?
6. The chief city of the interior of Venezuela is Ciudad Bolivar, the name of which means Bolivar City. On what river is it?
7. Name the capital of French Guiana.
8. Make a map of Venezuela and Guiana, locating the principal rivers and cities, and the islands near the coast.

#### REVIEW

1. How large is Brazil?
2. Why have not many white people settled in the valley of the Amazon?
3. Name some of the wild animals that are found in the forests of Brazil.
4. Describe the Amazon River.
5. Tell about the population of Brazil.
6. Why are not the Amazon forests of much value for timber?
7. Tell about the value of the rubber obtained from the Amazon Valley.

8. In what other countries is rubber obtained?
9. Describe the two great rubber centers of the Amazon Valley.
10. How are Brazil nuts obtained?
11. Tell about the coffee industry of Brazil.
12. What is yerba maté?
13. How are Brazilian diamonds found?
14. Describe Rio de Janeiro.
15. How large is Argentina?
16. How does it resemble our Mississippi valley?



**A Picturesque Street**

17. How did the Plata River receive its name?
18. Tell about the climate of Argentina.
19. Why is that country specially attractive to settlers?
20. Describe the ranches on the pampas.
21. Where is the great grain-producing area of South America?
22. What crops are raised in the northern part of Argentina?
23. Why is there but little manufacturing in that country?
24. Tell about the population of the country.
25. Tell about railroad building.
26. Describe Buenos Aires.
27. Describe the mouth of the Plata River.
28. Tell about the great waterfall of Argentina.
29. What is the Gran Chaco?

30. Describe Uruguay and Paraguay.
31. Tell about the length of Chile.
32. Why have many Europeans settled in Chile?
33. Describe the great central valley of Chile.
34. Describe Valparaiso.
35. Describe Santiago.
36. Explain the great advantages of the railroad from Valparaiso to Buenos Aires.
37. Describe the nitrate beds of Chile.
38. How is nitrate of soda obtained from the beds?



**Early Morning in the Alameda, Santiago de Chile**

39. For what purpose is this substance used?
40. From what ports is it shipped?
41. How is the Chilean government supported by the nitrate beds?
42. Tell about southern Chile.
43. Tell about the Araucanian Indians.
44. Tell about the Indians of Patagonia.
45. Tell about the industries and the Indians of Terra del Fuego.
46. Describe the town of Punta Arenas.
47. What is known about the land in the Antarctic region?
48. Tell about animal life in the Antarctic region.
49. Describe the physical features of the countries in the northwestern part of South America.

50. Explain the climate of that region.
51. Give the story of the treatment of the Incas by the Spaniards.
52. Tell about the present condition of the people.
53. Tell about the mines of that region.
54. What animals are used there for carrying merchandise?
55. Tell about railroad building in that region.
56. Describe Bolivia.
57. Describe Lake

**Titicaca.**

58. Tell about the mines of Peru.

59. Why did the Spaniards locate their cities among the mountains?

60. Describe the situation of Lima.

61. Describe the varieties of cotton raised in Peru.

62. What medicinal plants are produced in that country?

63. Explain how the Guano Islands are valuable to Peru.

64. What is the significance of the name of Ecuador?

65. Describe the city of Quito.

66. Describe a scene on the streets of Quito.
67. Explain the situation of Guayaquil.
68. Tell about the cacao industry of Ecuador.
69. Tell about other industries of Ecuador.
70. Describe Colombia.
71. Tell about the valley of the Magdalena River.
72. Tell about the capital city of the country.
73. Give reasons why Venezuela is not a prosperous country.
74. Tell about Simon Bolivar.
75. Tell about revolutions in Venezuela.



Caracas

76. Explain the climate of the country.
77. Describe the Orinoco Basin.
78. Tell about cattle herding on the Orinoco plains.
79. How does the Orinoco compare with the Mississippi?
80. Name various industries of Venezuela.
81. Describe Caracas.
82. Of what does Guiana consist?
83. Describe British Guiana.
84. Describe Dutch Guiana.
85. Describe French Guiana.



**Loading Bananas**

# APPENDIX

## Area and Population

The figures for population are according to the most recent census or estimate.

|                  | AREA IN<br>Sq. Mi. | POPULA-<br>TION |                    | AREA IN<br>Sq. Mi. | POPULA-<br>TION |
|------------------|--------------------|-----------------|--------------------|--------------------|-----------------|
| North America    | 9,431,000          | 116,450,000     | Haiti              | 11,072             | 1,500,000       |
| South America    | 6,856,000          | 47,074,000      | Hawaiian Islands   | 6,449              | 180,000         |
| Alaska           | 590,800            | 100,000         | Honduras           | 44,274             | 544,000         |
| Argentina        | 1,135,840          | 6,210,428       | Jamaica            | 4,200              | 830,261         |
| Bahama Islands   | 5,480              | 60,000          | Labrador           | 120,000            | 4,024           |
| Bolivia          | 605,400            | 1,953,916       | Luzon              | 40,969             | 3,798,907       |
| Brazil           | 3,218,991          | 19,910,646      | Mexico             | 767,258            | 13,606,666      |
| British Honduras | 7,562              | 42,500          | Mindanao           | 36,392             | 499,634         |
| Canada           | 3,745,574          | 6,500,000       | Newfoundland       | 42,734             | 230,139         |
| Central America  | 205,662            | 4,422,000       | Nicaragua          | 49,200             | 600,000         |
| Chile            | 307,620            | 3,871,000       | Panama             | 31,500             | 200,000         |
| Colombia         | 435,100            | 4,303,000       | Paraguay           | 98,000             | 631,347         |
| Costa Rica       | 18,689             | 351,176         | Peru               | 695,733            | 4,609,999       |
| Cuba             | 44,000             | 2,048,980       | Philippine Islands | 127,853            | 7,636,000       |
| Ecuador          | 116,000            | 1,400,000       | Porto Rico         | 3,435              | 1,012,775       |
| Greenland        | 837,837            | 12,000          | Salvador           | 7,225              | 1,116,253       |
| Guam             | 200                | 11,500          | Santo Domingo      | 18,045             | 610,000         |
| Guatemala        | 48,290             | 1,883,000       | Tutuila            | 54                 | 4,000           |
| Guiana, British  | 90,277             | 278,328         | United States      | 3,026,789          | 91,564,000      |
| Guiana, Dutch    | 46,060             | 78,124          | Uruguay            | 72,210             | 1,140,799       |
| Guiana, French   | 30,500             | 39,349          | Venezuela          | 364,000            | 2,646,835       |

## Cities

|                         |           |                            |         |
|-------------------------|-----------|----------------------------|---------|
| Antofagasta, Chile      | 26,445    | Cartagena, Colombia        | 14,000  |
| Arequipa, Peru          | 40,000    | Cienfuegos, Cuba           | 30,100  |
| Asuncion, Paraguay      | 60,259    | Concepcion, Chile          | 60,676  |
| Bahia, Brazil           | 230,000   | Cordoba, Argentina         | 53,000  |
| Barranquilla, Colombia  | 40,200    | Cuzco, Peru                | 20,000  |
| Batavia, Java           | 116,000   | Edmonton, Canada           | 11,167  |
| Bogota, Colombia        | 100,000   | Georgetown, British Guiana | 58,000  |
| Buenos Aires, Argentina | 1,189,662 | Guadalajara, Mexico        | 101,208 |
| Calgary, Canada         | 11,967    | Guatemala, Guatemala       | 125,000 |
| Callao, Peru            | 31,000    | Guayaquil, Ecuador         | 51,000  |
| Caracas, Venezuela      | 72,429    | Halifax, Canada            | 40,832  |

|                            | POPULA-<br>TION |                              | POPULA-<br>TION |
|----------------------------|-----------------|------------------------------|-----------------|
| Hamilton, Canada           | 52,634          | Port au Prince, Haiti        | 75,000          |
| Havana, Cuba               | 297,159         | Puebla, Mexico               | 94,000          |
| Iquique, Chile             | 44,500          | Quebec, Canada               | 68,840          |
| Honolulu, Hawaii           | 39,305          | Quito, Ecuador               | 50,841          |
| Kingston, Canada           | 17,961          | Rio de Janeiro, Brazil       | 811,265         |
| Kingston, Jamaica          | 46,540          | Rosario, Argentina           | 174,000         |
| La Paz, Bolivia            | 67,235          | St. John, Canada             | 40,711          |
| La Plata, Argentina        | 61,000          | St. Johns, Newfoundland      | 31,501          |
| Lima, Peru                 | 140,884         | San Juan, Porto Rico         | 32,048          |
| London, Canada             | 37,981          | San Luis Potosi, Mexico      | 61,000          |
| Manaos, Brazil             | 40,000          | San Salvador, Salvador       | 60,000          |
| Maracaibo, Venezuela       | 40,000          | Santiago, Chile              | 378,000         |
| Mexico, Mexico             | 344,721         | Santiago de Cuba             | 45,470          |
| Manila, Philippine Islands | 219,941         | Santo Domingo, Santo Domingo | 20,000          |
| Matanzas, Cuba             | 36,009          | Santos, Brazil               | 35,000          |
| Mayaguez, Porto Rico       | 15,187          | São Paulo, Brazil            | 332,000         |
| Montevideo, Uruguay        | 316,000         | Sucre, Bolivia               | 21,000          |
| Montreal, Canada           | 267,730         | Toronto, Canada              | 208,040         |
| Ottawa, Canada             | 59,928          | Valencia, Venezuela          | 40,000          |
| Panama, Panama             | 30,000          | Valparaiso, Chile            | 180,600         |
| Para, Brazil               | 60,000          | Vancouver, Canada            | 26,133          |
| Paramaribo, Dutch Guiana   | 32,000          | Vera Cruz, Mexico            | 29,000          |
| Pernambuco, Brazil         | 120,000         | Victoria, Canada             | 20,816          |
| Ponce, Porto Rico          | 27,952          | Winnipeg, Canada             | 90,153          |

## Mountains

|                      | HEIGHT<br>IN FEET |                      | HEIGHT<br>IN FEET |
|----------------------|-------------------|----------------------|-------------------|
| Aconcagua, Argentina | 23,080            | St. Elias, Alaska    | 18,100            |
| Sorata, Bolivia      | 21,300            | Popocatepetl, Mexico | 17,800            |
| Chimborazo, Ecuador  | 20,500            | Wrangell, Alaska     | 17,500            |
| McKinley, Alaska     | 20,460            | Cotopaxi, Ecuador    | 16,300            |
| Logan, Canada        | 19,500            | Rainier, Washington  | 14,500            |
| Orizaba, Mexico      | 18,300            | Whitney, California  | 14,500            |

## Rivers

|                      | LENGTH<br>IN MILES |                     | LENGTH<br>IN MILES |
|----------------------|--------------------|---------------------|--------------------|
| Mississippi-Missouri | 4,350              | Mackenzie           | 2,000              |
| Amazon               | 3,400              | Yukon               | 2,000              |
| Missouri             | 3,100              | Rio Grande          | 1,800              |
| Plata                | 2,500              | São Francisco       | 1,800              |
| St. Lawrence         | 2,200              | Nelson-Saskatchewan | 1,700              |
| Arkansas             | 2,170              | Columbia            | 1,400              |
| Colorado             | 2,000              | Orinoco             | 1,350              |

# INDEX AND PRONOUNCING VOCABULARY

## KEY TO PRONUNCIATION

*a*, as in *fat*; *ā*, as in *fate*; *ā*, as in *far*; *â*, as in *fall*; *e*, as in *pen*; *ē*, as in *mete*; *ê*, as in *her*; *i*, as in *pin*; *ī*, as in *pine*; *o*, as in *not*; *ō*, as in *note*; *ö*, as in *move*; *u*, as in *tub*; *ū*, as in *mute*; *û*, as in *pull*; *g*, as in *get*; *ġ*, as in *gem*; *c*, as in *cat*; *ç*, as in *cent*.

A double dot under a or o (*ä*, *ö*) indicates that its sound is shortened to that of *u* in *but*.

Italicized letters are silent. The sign ' tells upon which syllable the accent is placed. The numbers refer to pages in the book.

- |                                                         |                                                      |
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